

An Exploration of Interdisciplinary Practice Through an Examination of Specific Disciplinary
Interpretations of Stereotypic Behaviour

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Abstract

As identified in the literature, a lack of understanding of the functional properties and triggers of stereotypic behaviour exists. When looking at this behaviour from an Applied Behaviour Analysis (ABA) framework, limitations are evident around identifying specific sensory modalities and functional properties of such behaviour. Antecedents particularly are difficult to identify and interpret. Therefore an interdisciplinary approach to assessment using two types of professional services commonly received by individuals with autism was proposed. However before this approach could be investigated the current interpretations of stereotypic behaviour by each professional must be examined along with perceptions of interdisciplinary collaboration. The purpose of this study was to use an in-depth qualitative analysis to reveal the interpretations of stereotypy and collaboration from the perspectives of two particular professionals. The results of the study demonstrated that occupational therapists and behaviour analysts likely have different interpretations of the same behaviour, that consultation is the common model used to interact with other disciplines, and that professionals may have mixed feelings toward interdisciplinary practices as an approach to stereotypic behaviour. Strengths and limitations of the study were highlighted along with specific directions for future research.

An Exploration of Interdisciplinary Practice Through an Examination of Specific Disciplinary Interpretations of Stereotypic Behaviour

Chapter 1

Applied Behaviour Analysis (ABA) is well known for accurately identifying functional properties and relevant variables surrounding behaviour. Throughout the ABA literature problems such as self-injurious behaviour, aggressive behaviour, and social/communication deficits have been successfully addressed through behavioural methods (Cooper, Heron, Heward, 2007). Although ABA has demonstrated accuracy and precision through collection of data and generation of behavioural definitions, certain behaviours are still not completely understood, even with the most advanced systems of measurement and data collection (Fisher, Adelinis, Thompson, Worsdell & Zarcone, 1998; Van Camp, Lerman, Kelley, Roane, Contrucci, & Vorndran, 2000). Repetitive or stereotypic behaviour in individuals with autism, although a highly studied phenomenon throughout the ABA literature, is a prime example of a type of behaviour that has several remaining questions surrounding function and antecedent control (Lewis & Bodfish, 1998; Rapp & Vollmer, 2005; Tang, Patterson, & Kennedy, 2003; Turner, 1999). In order to move toward answering such questions it is important, as when looking at any complex behaviour, to look 'outside the box' to obtain a broader understanding. A collaborative approach through interdisciplinary practice has been suggested as a way to help better identify functional properties of repetitive behaviour and specifically help access antecedent variables in an individual's environment. Prior to considering the implications of addressing stereotypic behaviour from an interdisciplinary framework, an overview of stereotypy and interpretations from an ABA framework will be discussed.

Background

Definitions of repetitive behaviour typically include many different types of behaviour, including sensory-motor movement and object manipulation (i.e., stereotypy), insistence on sameness, circumscribed interests, and compulsive rituals (Gabriels, Agnew, Miller, Gralla, Pan, Goldson et al, 2008; Gabriels, Cuccaro, Hill, Ivers, & Goldson, 2005; Lewis & Bodfish, 1998; Turner, 1999). It has been highly recommended throughout the literature that each be studied separately, as different types of repetitive behaviour could be very different topographically and possibly neurologically (Lewis & Bodfish, 1998). The focus of this exploration will be specifically on sensory-motor movements, object manipulation and vocal stereotypies. Stereotypical behaviour occurs across populations, however studies examining this behaviour have focused considerably on individuals with Autism. Reasons for this could be that stereotypical behaviour is a diagnostic criterion for the disorder according to the DSM-IV-TR (American Psychological Association, 2000) and has been shown to be unique within this population when compared to individuals without an autism diagnosis (i.e. typically developing peers and individuals with developmental delay or intellectual disabilities) (Joosten, Bundy, & Einfeld, 2009; Smith & Van Houten, 1996).

With a specific focus on populations with autism, stereotypic behaviour has been considered an important area to study for several reasons. Problems associated with this behaviour include the social stigma surrounding it (Bishop, Richler, Cain, & Lord, 2007; Cunningham & Schreibman, 2008; Smith & Van Houten, 1996; Turner, 1999), interference with the development of important skill sets (e.g., play skills and social skills) (Koegel & Covert, 1972; Koegel, Firestone, Kramme, & Dunnlap, 1974; Lovaas, Litrownik, & Mann, 1971), and also such behaviour has been found to be a factor related to parental stress (Gabriels, Cuccaro,

Hill, Ivers, & Goldson, 2005). Although the problems associated with stereotypic behaviour are well understood, the reasons behind why individuals engage in such behaviour are not as apparent.

Theories surrounding stereotypic behaviour include those that outline operant conditions that specifically control the behaviour, as well as those that focus more on physiological mechanisms, such as sensory processing, homeostasis, and anxiety reduction (Lewis & Bodfish, 1998; Turner, 1999). The most common and well-researched approach to this behaviour is through ABA. Functional properties of stereotypic behaviour have been examined extensively within the ABA literature, specifically among individuals with autism (Cunningham & Schreibman, 2008; Durand & Carr, 1987; Kennedy, Meyer, Knowles, & Shukla, 2000; Rapp, Dozier, Carr, Patel, & Enloe, 2004; Rapp & Vollmer, 2005). Despite extensive research on the topic, functional properties and triggers are not always easily identified (Kennedy, Meyer, Knowles, & Shukla, 2000; Tang, Patterson, & Kennedy, 2003; Vollmer, Marcus, & LeBlanc, 1994). However in order to gain a better overall understanding of this complex behaviour, a collaborative approach was proposed in hopes of providing new insights and perspectives.

Rationale

Repetitive behaviour, specifically stereotypy, was chosen to facilitate the study of interdisciplinary collaboration because of its overall complexity and due to the challenges often met when using ABA technology. ABA research looking at this behaviour has been extensive (Rapp & Vollmer, 2005; Lancioni, Singh, O'Reilly, & Sigafos, 2009) however several gaps exist, including the inability to identify specific stimulus-response relationships for many cases of stereotypic behaviour (Tang, Patterson, & Kennedy, 2003). Not only does such behaviour often seem multiply controlled, but also sensory modalities can be very difficult to identify

(Kennedy, Meyer, Knowles, & Shukla, 2000; Rapp & Vollmer, 2005; Vollmer, Marcus, & LeBlanc, 1994). Additionally methods to obtain such sensory information can sometimes be intrusive and distressing to the individual involved (Rapp & Vollmer, 2005). More specifically significant gaps exist within ABA technology when attempting to identify antecedent variables (Fisher, Adelinis, Thompson, Worsdell, & Zarcone, 1998; Van Camp, Lerman, Kelley, Roane, Contrucci, & Vorndran, 2000).

Antecedents are important as they provide valuable information around what could be triggering certain behaviour (Cooper, Heron, & Heward, 2007; Fisher, Adelinis, Thompson, Worsdell, & Zarcone, 1998; Van Camp, Lerman, Kelley, Roane, Contrucci, & Vorndran, 2000). When specifically looking at stereotypic behaviour, it is evident that often antecedents are difficult to pinpoint with current ABA technology (Carr, Yarbrough, & Langdon, 1997; Fisher, Adelinis, Thompson, Worsdell, & Zarcone, 1998; Van Camp, Lerman, Kelley, Roane, Contrucci, & Vorndran, 2000). Recommended methods such as direct observation and ecological assessments (Fisher, Adelinis, Thompson, Worsdell, & Zarcone, 1998; Gardner, Cole, Davidson, & Karan, 1986; Wahler & Fox, 1981) have considerable limitations in terms of accuracy and feasibility (Smith & Iwata, 1997) therefore alternative suggestions are needed regarding how to gain insight into antecedent variables. What has not yet been proposed in the literature is an interdisciplinary approach to accessing antecedent variables, possibly leading to a better understanding of stereotypic behaviour. Interdisciplinary models of assessment and intervention are highly acknowledged throughout the literature for a number complex issues.

A common recommended model used in human services is an interdisciplinary model of assessment and treatment (Rossen, Bartlett, & Herrick, 2008). When using the term interdisciplinary, it is important to note that actual collaboration between disciplines must take

place (Collin, 2009). This is often confused with multi-disciplinary approaches, in which professionals from multiple disciplines are working on the same client but no real interaction or collaboration takes place. Interdisciplinary models have been highly researched in the medical, educational, and social work fields and both successes and challenges have been reported (Hochstadt & Harwicke, 1985; Lemieux-Charles & McGuire, 2006; Pfeiffer & Naglieri, 1983). Proponents of this model suggest that often one discipline or school of thought is not enough to provide answers to complex problems (Collin, 2009; Derry & Schunn, 2005). A more holistic approach needs to be used in order to not only understand the behavioural mechanisms, but also some of the non-behavioural factors as well (e.g., physiological discomfort, sensory components) (Gardner, 2002; Schreibman & Anderson, 2001). Repetitive behaviour or stereotypy specifically, could also be looked at from an interdisciplinary model of assessment and treatment. In order to examine this possibility further, it is important to identify the typical services and disciplines that target stereotypic behaviour among individuals with autism.

When looking at services individuals with autism typically receive, the two most common that also fit well with the assessment of stereotypic behaviour are ABA and occupational therapy (OT) (McLennan, Huculak, & Sheehan, 2008). In terms of addressing stereotypic behaviour in individuals with autism, ABA and occupational therapy both possess the necessary tools to examine and interpret such behaviour and target antecedent variables (Rapp & Vollmer, 2005; Case-Smith & Arbesman, 2008). What is not yet known is a) how interpretations of stereotypic behaviour are different between these disciplines and b) how members of these disciplines could possibly work together to provide a better overall understanding of this complex behaviour, specifically within the realm of antecedents. What first needs to be considered, however, before hypotheses around interdisciplinary approaches and stereotypic

behaviour can be tested, is how these disciplines currently interact as well as the general perception of collaborative models.

Using two common services received by individuals with autism, an exploration of interdisciplinary interpretations of stereotypic behaviour was investigated in order to determine the possible usefulness of this model in expanding our knowledge of repetitive or stereotypic behaviour. The purpose of this study was to compare an applied behaviour analyst's (ABA) and an occupational therapist's (OT) perspectives of stereotypic behaviour in order to determine differences and similarities between the two approaches. With special attention toward the identification of behavioural antecedents, the observations were examined in parallel to determine any novel antecedent accounts outlined from each perspective. Such comparisons provided the groundwork for further research surrounding interdisciplinary practice as an approach toward stereotypic behaviour in individuals with autism, and also highlighted possible challenges to collaboration between disciplines. Five questions were examined in this exploration: 1) How are stereotypic behaviour and collaboration interpreted from the perspective of a behaviour analyst? 2) How are stereotypic behaviour and collaboration interpreted from the perspective of an occupational therapist? 3) What are the similarities and differences between the two perspectives? 4) What antecedent events surrounding stereotypic behaviour are typically identified by observers who are members of each profession? 5) How may these findings inform research looking at collaboration and integrative assessment approaches?

The design of this study involved an in-depth qualitative analysis of each discipline's interpretation of a) stereotypic behaviour, b) interdisciplinary models of practice, and c) antecedents possibly related to stereotypic behaviour. These interpretations were formed from semi-structured interviews and detailed video accounts of four participants engaging stereotypic

behaviour in the natural environment. The behaviour analyst's and occupational therapist's interpretations were examined in parallel to determine differences in interpretation of stereotypic behaviour, possible barriers to collaboration and to make suggestions around ways to facilitate collaboration in practical settings.

Chapter 2

Literature Review

There has been extensive research looking at the complexities surrounding stereotypic behaviour within the literature. The importance of studying and understanding the implications of this behaviour are evident, however knowledge around functional properties and successful assessment approaches is quite limited. In an attempt to explore these aspects further, a review of the literature looking at stereotypic behaviour will be followed by a synthesis of the research looking at the importance of setting events and antecedents in attempting to understand this complex behaviour. An interdisciplinary model will be discussed as a viable way to obtain a better understanding of this behaviour. As a reflection of common services children with autism receive, ABA and occupational therapy were selected in order to explore collaboration within this interdisciplinary model of assessment.

Stereotypic Behaviour

Stereotypic behaviour occurs across a variety of populations, however research is often focused on individuals with autism. Autism is diagnosed through behavioural criteria outlined by the *DSM-TR-IV* (American Psychological Association, 2000). It is classified as a developmental disorder marked by deficiencies in social skill development and communication, accompanied by repetitive behaviour. Because repetitive behaviour is a diagnostic characteristic of autism, it is of interest to study it further among individuals with autism. Further, it has been shown that repetitive behaviour in individuals with autism is atypical compared to that displayed by individuals without autism (i.e., typically developing individuals or individuals with other disabilities). For example, a study by Smith and Van Houten (1996) compared individuals with autism and other developmental disorders with typical age matched comparisons, finding that

intensity and bizarre topography of the behaviour was characteristic among the children with autism. Given the high frequency and idiosyncratic nature of this behaviour in individuals with autism, this population is important to consider when studying repetitive behaviour or stereotypy.

Several implications surrounding stereotypic behaviour among children with autism are evident throughout the literature. Many studies have examined the negative impact of such behaviour not only on learning and development, but also on the degree of stress and stigma experienced by individuals with autism and their families. When looking at studies specifically examining the influences of stereotypic behaviour on learning, one study found that high rates of such behaviour increased response latencies in individuals with autism (Lovaas, Litrownik, & Mann, 1971). Similarly, in a study that examined the influence of the suppression of stereotypic behaviour on discrimination tasks, it was found that when stereotypy was suppressed, the likelihood of correct responding increased (Koegel & Covert, 1972). Additionally, a study by Koegel, Firestone, Kramme, and Dunnlap (1974) examined the impact of rates of stereotypic behaviour on spontaneous and appropriate play in two children with autism, finding that when rates of such behaviour were decreased the level of spontaneous and appropriate play increased. These foundational studies indicated some of the issues around high rates of stereotypic behaviour that relate directly to learning and development.

Additionally, it has been found that such behaviour plays a considerable role in increasing the stress and stigma of individuals with autism and their families. For example, a study by Bishop, Richler, Cain, and Lord (2007) discussed the influence of this behaviour specifically on negative impact (i.e., emotional, financial, social, and personal stress) in mothers of children with autism. It was found that high scores on the Repetitive Behaviour Scale corresponded with high levels of maternal negative impact and that often mothers have reported

that their children's odd behaviours have contributed to social stigma experienced within their communities. This study demonstrates the impact of repetitive behaviour within the broader topic of maternal stress and social stigma. Overall, it is evident that there are several implications surrounding this behaviour.

Although the implications surrounding stereotypic behaviour were clear throughout the literature, information around its function and triggers has not been well established. A review by Lewis and Bodfish (1998) found that much more information is needed in order to gain a better understanding of etiology and function of stereotypic behaviour in individuals with autism. They reviewed various theoretical interpretations including discussions around the behavioural mechanisms, sensory processes, and neurological systems that may be involved in the establishment of such behaviour. However, they explained that there is not enough evidence to make any concrete conclusions regarding the function or cause, specifically in individuals with autism. A later review by Turner (1999) discussed similar findings.

Turner (1999) provided a comprehensive review of theories and treatment approaches surrounding repetitive behaviour in individuals with autism. Her review looked at several theories including those of behavioural origin as well as some that were more biological or sensory driven. However the author found that none of the theories within the literature provided enough evidence to draw any definite conclusions regarding the function or purpose of such behaviour. Operant theories, for example, had gaps in terms of consistency in results and unclear consequences surrounding the behaviour. Also, arousal theories looking at repetitive behaviour as a way to obtain homeostasis in the presence of novel stimuli (i.e., anxiety reduction) were found to be promising among some samples (primarily individuals with learning disabilities) however did not account for the presence of repetitive behaviours across multiple environmental

conditions among samples of individuals with autism. Overall the author concluded that many different theories may be at work at different times or even simultaneously. She spoke to the heterogeneous nature of repetitive behaviours, suggesting that it may not be unrealistic to think that explanations would also be heterogeneous.

The common conclusions found when looking at reviews of stereotypy in the literature were that more information was needed in order to fully understand this complex behaviour (Lewis & Bodfish, 1998; Turner, 1999). The gaps in knowledge are primarily surrounding functional properties and environmental triggers. Patterns have been observed and many theories have been discussed, however there has not been enough evidence to make generalizations around why individuals with autism engage in such behaviour. Although many approaches to this behaviour exist and information around each one in isolation can be found, there is not any research to show how a combination of these theories could possibly lead to a better overall understanding of stereotypic behaviour. Before discussing this possibility further, an overview of stereotypic behaviour from an ABA framework will be examined in order to identify where gaps in knowledge and limitations exist.

Stereotypic Behaviour in ABA

In the literature, stereotypic behaviour has primarily been examined through methodologies within an Applied Behaviour Analysis (ABA) framework. ABA uses principles of learning to identify functional properties of socially significant behaviour by manipulating controlling contingencies through experimental assessment (Cooper, Heron, & Heward, 2007). When looking at stereotypic behaviour in an ABA framework, it is important to identify both the strengths and limitations of this approach. If limitations exist, it is essential to explore solutions to help facilitate knowledge around the functional properties of behaviour. Beginning with an

examination of experimental functional analysis, some of the gaps that exist in the ABA literature regarding functional properties of stereotypic behaviour will be discussed, along with some possible solutions.

Within ABA there is an emphasis on the use of experimental analysis to identify the function of behaviour. This method not only provides results that have excellent reliability and validity, but it provides a greater understanding of behaviour through direct manipulation of controlling variables (Cooper, Heron, & Heward, 2007). As described by Iwata, Pace, Dorsey, Zarcone, Vollmer, and Smith et al. (1994), experimental functional analyses can identify up to five or more different conditions in which behaviour can occur. Contingencies are set up around problem behaviour producing the following consequences: attention, escape from demands, tangible items, no consequence (alone condition), accompanied by a control or play condition where the individual has free access to stimuli and experimenter attention. The experimenter would systematically measure the frequency of a specific behaviour in each condition. The condition in which behaviour occurs most frequently would point to the likely function of the behaviour. Despite the precision and accuracy of this method of assessment, several issues can arise when assessing stereotypic behaviour.

Although experimental analysis has been shown to be beneficial in assessing many different types of behaviour including aggression and self-injurious behaviour (Iwata, Pace, Dorsey, Zarcone, Vollmer, and Smith et al., 1994; Pelios, Morren, Tesch, & Axelrod, 1999) research looking at functional properties of stereotypic behaviour has presented some potential difficulties in terms of identifying specific response-reinforcer relationships through functional analysis (Kennedy, Meyer, Knowles, & Shukla, 2000; Tang, Patterson, & Kennedy, 2003; Vollmer, Marcus, & LeBlanc, 1994). Tang, Patterson, and Kennedy (2003) attempted to find

sensory modalities surrounding automatically reinforced stereotypic behaviour in six participants who had severe to profound intellectual disabilities. They found that specific reinforcing stimuli related to stereotypy were not always easily identified or obvious through functional analysis and sensory extinction procedures. It was also difficult to find effective replacement stimuli that could compete with inherent reinforcement. The authors emphasized the complexity of this behaviour and the difficulty in pinpointing specific functions even when testing sensory stimuli through functional analysis methods.

Tang, Patterson, & Kennedy (2003) also discussed the issue of inconclusive functional analysis results when looking at stereotypic behaviour. They reported that up to 55% of experimental analyses conducted by their team had been inconclusive or undifferentiated, meaning that all conditions resulted in high or low frequencies of behaviour. As explained by Vollmer, Marcus, and LeBlanc (1994), an experimental analysis could be inconclusive in three different scenarios. The first is when the behaviour is controlled by multiple contingencies, meaning that both automatic and/or social variables could be maintaining the behaviour. The second explanation is that the conditions in the functional analysis were not discriminated by the individual therefore behaviour remained stable across conditions. Lastly, it could be that the experimenter did not produce or gain control over the relevant antecedent variable to stimulate the behaviour. The latter explanation is of specific interest to this study.

Antecedents

Antecedents are relevant stimuli or events that occur prior to the target behaviour (Cooper, Heron, Heward, 2007). Within ABA antecedents are often distinguished from setting events, which are considered to be less immediate than antecedents. Both antecedents and setting events are important factors to consider when looking at any behaviour. These stimuli are often

looked at as environmental triggers or precursors to behaviour. For the purpose of description, the term antecedent will be used to refer to both immediate variables and broader setting events in the environment. The study of antecedents surrounding stereotypic behaviour has received considerable attention within the literature (Lerman & Rapp, 2006; Rapp & Vollmer, 2005). Many researchers have shifted their focus to more idiosyncratic antecedent events particularly surrounding behaviours without obvious functions. There is considerable evidence to suggest that antecedents are not always being accurately captured in studies using functional analysis technology (Carr, Yarbrough, & Langdon, 1997; Fisher, Adelinis, Thompson, Worsdell, & Zarcone, 1998; Van Camp, Lerman, Kelley, Roane, Contrucci, & Vorndran, 2000). For example, a study by Carr, Yarbrough, and Langdon (1997) looked specifically at how idiosyncratic antecedent variables impacted the effectiveness of a traditional functional analysis. They tested the effects of such variables among three participants. It was originally found that functional analysis results did not correspond with reported rates of problem behaviour, which led them to investigate further into additional stimuli within the environment that seemed to accompany behaviour. Once specific variables were identified, they were tested through a functional analysis. It was found that the presence of very specific idiosyncratic variables had dramatic effects on the outcome of the functional analysis for each participant. The authors discussed the importance of identifying relevant antecedent variables in the environment, especially when looking at complex behaviour.

Such findings can be directly related to research looking at stereotypic behaviour. As mentioned previously, functional properties of this behaviour are often inconclusive or difficult to identify (Tang, Patterson, & Kennedy, 2003). The importance of identifying antecedent variables is evident, as attempts to gain an accurate understanding of such behaviour through

traditional behavioural methods alone (e.g., functional analysis or sensory extinction) can be complicated, time consuming, and often intrusive to the individual if relevant contingencies are not identified (Rapp & Vollmer, 2005). This impacts both assessment and treatment attempts. Rapp and Vollmer (2005) described many possible intervention strategies that have been used to try to reduce stereotypic behaviour and limitations were found within many of the studies. Sensory extinction procedures were often intrusive for the individual, as sensory input had to be blocked. This meant that external methods to inhibit input had to be put in place (e.g., blind folds). Also, they explained that punishment strategies including overcorrection and response blocking often had to be used in conjunction with other strategies in order to obtain long-term results. The need to use punishment techniques within intervention attempts suggests that contingencies surrounding the behaviour are likely not completely understood. Due to such difficulties, consequence interventions may not be as effective as more proactive antecedent approaches.

Identifying Antecedents

Although antecedent approaches have been shown to aid in providing a better understanding of certain behaviour (Van Camp, Lerman, Kelley, Roane, Contrucci, & Vorndran, 2000), problems with this strategy have also been identified when looking at stereotypic behaviours (Rapp & Vollmer, 2005). Due to the complexity of stereotypic behaviour among individuals with autism and the typically high rates of automatically reinforcing contingencies surrounding the behaviour, antecedent variables are often difficult to identify (Fisher, Adelinis, Thompson, Worsdell, & Zarcone, 1998; Kennedy, Meyer, Knowles, & Shukla, 2000; Tang, Patterson, & Kennedy, 2003). However various recommendations have been made around how to pinpoint such variables. A study by Carr, Yarbrough, and Langdon highly recommended

descriptive analyses as an effective way to gain insight into possible antecedent variables. They found it useful to identify possible idiosyncratic antecedent variables through Antecedent, Behaviour, and Consequence (ABC) observations, prior to conducting experimental analyses in order to include relevant variables within conditions. ABC observations look at events that occur immediately before and after the behaviour in an individual's natural environment and can be carried out by both caregivers and experienced staff (Cooper, Heron, & Heward, 2007). However the use of descriptive approaches has been criticized, as they have been shown in the past to be incongruent when compared to results from experimental analyses (Fisher, Adelinis, Thompson, Worsdell, & Zarcone, 1998). The potential inaccuracy of the observations of this method poses a significant problem when attempting to tease out relevant antecedents in an individual's environment. In addition to descriptive methods, ecological assessments have also been proposed as tool to help identify relevant antecedent variables.

Ecological assessments have been recommended throughout the literature as effective methods in aiding in the understanding of complex behaviour (Gardner, Cole, Davidson, & Karan, 1986; Wahler & Fox, 1981). Such assessments describe a wide range of variables or setting events to help tease out factors that could be impacting behaviour both directly and indirectly. It is an early model of assessment that has been proposed as a possible way to expand the ABA analysis of antecedent events (Wahler & Fox, 1981). For example, an article by Gardner, Cole, Davidson, and Karan (1986) described the inconsistency of certain behaviours interacting with immediate antecedents in the environment. They looked at expanding interpretations of antecedents to a wider range of variables using correlational analyses. It was found through the examination of a specific case that this method was useful in aiding in understanding of aggressive behaviour in a young man residing in a residential facility. The

authors recommended this more global examination of setting events as a preliminary step in conducting traditional ABC analyses and described such assessments as a necessary informant for experimental methods.

However, this model has some logistical limitations and has been criticized for its broad scope in examining factors related to behaviour (Cooper, Heron, & Heward, 2007; Smith & Iwata, 1997). Such global assessments of environmental variables can be time consuming, costly, and often are not feasible when clients interact with multiple environments throughout the day (Cooper, Heron, Heward, 1997). Also, Smith and Iwata (1997) described how such assessments do not give enough specific information to inform precise functions of behaviour. They discussed the difficulties in pinpointing relevant antecedents through this methodology due to the inclusion of too many variables in relation to behaviour at one time, concluding that functional relationships between variables are often only inferred. Based on the criticisms of expanded antecedent observations in terms of accuracy and validity of assessments, as well as the possible inaccuracy of traditional ABC analyses, the need for more informed decisions around identifying relevant setting events is evident. It is unclear however within the ABA literature how more informed interpretations could be obtained.

The alternative suggestion proposed in this study is the use of an interdisciplinary model of assessment to obtain a broader range of antecedent variables that could be related to repetitive behaviour. As explained by Turner (1999), no one explanation exists that provides a complete understanding of repetitive behaviour. She explains that many different processes can be involved at once, both operational and physiological. In order to gain a better understanding of the processes involved in this behaviour, an interdisciplinary approach could be used to broaden the scope in which stereotypic behaviour is interpreted and observed. If more informed decisions

around possible variables are made, ABC and ecological assessments could be conducted more accurately. Therefore an examination of the literature looking at synthesizing multiple approaches to obtain information will be conducted. The benefits of interdisciplinary practice will be discussed along with reported barriers and concerns voiced by professionals in various fields and disciplines. This will be followed by a discussion regarding importance of using an interdisciplinary approach among children with autism specifically.

Interdisciplinary Practice

Looking outside the ABA literature, a strong focus on interdisciplinary approaches to assessment exists. Interdisciplinary models have been highly recommended especially when certain phenomena are complex and cannot be understood using the knowledge of one specific discipline (Collin, 2009; Derry & Schunn, 2005). As demonstrated by the above literature, stereotypic behaviour is not completely understood through ABA alone, therefore it seems possible that a collaborative approach could aid in facilitating a better understanding of variables surrounding this behaviour. Before examining this approach however, it is important to outline specifically what an interdisciplinary approach would consist of in terms of level of collaboration between disciplines.

A review of interdisciplinary practice in vocational psychology by Collin (2009) described three different types of collaboration between disciplines, which have been outlined throughout the literature, including multi-disciplinary, trans-disciplinary, and interdisciplinary practice. As explained by Collin, the definitions of these terms can differ greatly and they are sometimes used interchangeably, however she explained key distinctions that can be used to differentiate types of collaboration discussed throughout the literature. First, Collin described multi-disciplinary practice as more of a divide and conquer process. Each discipline would work

from an independent framework on different aspects of the same project. This contrasted with trans-disciplinary practice, where disciplines would share a common philosophy and bring together different theories that tended to overlap. Finally, interdisciplinary practice, which is the focus of this analysis, was characterized by different disciplines working together in order to “unify two or more disciplines” (Collin, 2009 pp. 103). The unification the author discussed implied that disciplines would work in collaboration to the extent that there is an attempt to understand and integrate the philosophy of the respective discipline(s). This occurs not only at the practical level, but through teaching and research efforts as well. The author highlights that collaboration is often fostered by strong relationships between professionals at both the interpersonal and organizational level. In the current study, interdisciplinary collaboration, as described by Collin, is the model suggested, as it ensures that there is actual collaboration and cooperation between disciplines, as opposed to disciplines working with the same client in isolation (i.e., multi-disciplinary) or disciplines that may be too similar in philosophy and orientation (i.e., trans-disciplinary). Although there have not been studies directly examining interdisciplinary practice and stereotypic behaviour in individuals with autism, this approach has been shown to be beneficial when making important clinical decisions and conducting formal assessments.

Interdisciplinary models have been highly investigated within educational, social work, and medical research. For example, a study by Pfeiffer and Naglieri (1983) looked at a team approach to special education placement decision-making, including different disciplinary representatives that had to come to an agreement regarding the educational placement of two children with special needs. The authors compared this process to decisions that were made by independent professionals by referring to a panel of experts that reviewed the appropriateness of

each recommendation. It was found that the team approach more consistently matched up with expert panel decisions and contained less variability from experts than individual recommendations. Overall this study demonstrated the usefulness of this approach in an educational setting regarding complex and important decisions.

Similar to Pfeiffer and Naglieri's (1983) study, research in social work has also found interdisciplinary approaches to be effective when making critical decisions. Hochstadt and Harwicke (1985) specifically examined service delivery and placement recommendations for children that were abused or neglected, made by various disciplinary representatives on a review committee. They found this method to be useful, as it increased access to services, helped to coordinate current service delivery, and reduced the "fragmentation" that often occurs when services work independent of one another (Hochstadt & Harwicke, 1985 pp. 371). In addition to the positive results of interdisciplinary practice research in social work, the benefits of interdisciplinary approaches have also been demonstrated within medical models of service.

A study by Lemieux-Charles and McGuire (2006) conducted a meta-analysis looking at studies that reviewed the effectiveness of team-initiated interventions consisting of individuals from a variety of disciplines compared to "non-team" intervention within a health care setting (Lemieux-Charles & McGuire, pp. 270) The authors reviewed 33 studies published between 1985 -2004, which examined a variety of health care settings including geriatrics and in-patient care. The authors found that overall, team decisions around intervention resulted in more positive clinical outcomes and satisfaction among patients. This study demonstrated the benefits of such team approaches in health care settings.

As can be taken from all three studies discussed, interdisciplinary practice seems to be an important component in facilitating the effectiveness of decision-making within human services.

Such information is especially relevant to the current study, as it provides support toward the possible use of this approach when attempting to understand stereotypic behaviour, a phenomenon that has not been adequately understood by one single approach or discipline.

Essential Components and Barriers to Interdisciplinary Practice

Despite the apparent benefits demonstrated in the literature around effectiveness of interdisciplinary approaches, there also has been extensive research critically analyzing the professional dynamics of interdisciplinary team approaches, describing both the needs and barriers outlined by those directly involved. Much of this research lies in the field of medicine and early intervention. For example, Belanger and Rodriguez (2008) conducted a review of qualitative research looking at factors that facilitate and impede primary healthcare team cooperation. The purpose of their study was to gain insight into the current dynamics of team collaboration as well as to find out what could be improved within health care systems. The common themes the authors found within the literature included the importance of availability of resources and the investment of time toward team building, establishing clear roles and communication between team members, and finally the importance of shared goals and working objectives. In terms of finding what facilitated cooperation, the authors found that strong working relationships and availability of resources were commonly mentioned within the literature. Barriers that were commonly identified included, potential conflicts between disciplines due to differences in perspectives, the risk of feeling threatened by the other discipline (revealing professional insecurity), role confusion and lack of communication. The authors concluded that in order for team approaches to be successful these factors must be taken into account. Within the current study, when examining the possibility of behaviour analysts and

occupational therapists working together, it was important to consider these factors as well when discussing potential and/or current collaboration efforts.

When looking at research that more closely relates to types of services received by children with autism, similar findings were revealed. An article by Mellin and Winton (2003) discussed the perceptions of interdisciplinary collaboration among faculty members from various educational institutions that specialized in some form of early intervention pre-service training for various professions. They placed individuals into one of four groups: medicine (pediatrics, nursing, and nutrition), allied health (physical therapy, occupational therapy, and speech-language pathology), education (faculty in education), and social sciences (social work and psychology). The purpose of the study was to look at the influencing factors that contributed to engagement in interdisciplinary collaboration as well as the barriers faculty members identified. The study also compared each category in terms of time spent engaged or promoting interdisciplinary practice.

The results of the study indicated that work environment (e.g., colleagues' interest in collaboration) and professional background (e.g., how much collaboration is valued within the profession) were primary factors that contributed to interdisciplinary collaboration, according to faculty members. The barriers discussed also fell into similar categories. Work environment was discussed in terms of lack of resources to engage in collaboration as well as professional background, in terms of differences in training, clinical goals and philosophy. They also mentioned attitude of professionals, specifically around the concern of protecting the integrity of their own disciplines as a possible barrier.

When looking at time spent engaged in interdisciplinary efforts, the social science group was found to have the highest levels of collaboration in practical settings. The group with the

lowest reported collaboration by faculty was allied health, which included physical therapy, occupational therapy, and speech-language pathology, however differences between types of disciplines were not statistically significant. This study provided some valuable information around possible factors influencing collaboration as perceived by pre-service faculty of early intervention providers. The current study examined disciplines that could fit into the categories discussed by the authors, when comparing behaviour analysts (i.e., social science) and occupational therapists (i.e., allied health). The following information could possibly provide insight into how these professionals may respond to questions around collaboration among children with autism when it comes to understanding stereotypic behaviour.

Even more specific to individuals with autism, an article by Swiezy, Stuart, and Korzekwa (2008) discussed the importance of an integrated service model that includes collaboration across a number of disciplines including medicine, education, and other community systems, specifically geared to assessing and treating children with autism. The authors talked about programming and the role that collaborative service models played in increasing the accuracy of assessment methods and effectiveness of programs. They described barriers to collaboration, including lack of time, resources, and availability of services, also emphasizing the importance of training professionals to take a collaborative approach at the pre-service level.

Similarly, a review by Schreibman and Anderson (2001) also outlined advantages of interdisciplinary approaches for children with autism receiving behavioural interventions (i.e., ABA). They discussed the usefulness of behavioural methodology however they also acknowledged the limitations around using one approach to assessment and treatment, emphasizing the importance of including the input of other disciplines. They emphasized

consistent communication, coordination, and openness between service providers and talked about how such efforts can be limited in practice settings involving multi-disciplinary teams. This study related directly to the current study, as it emphasized the need to complement behavioural interventions with insight from other disciplines, as well as outlined important components involved in facilitating such collaborative approaches.

The importance of collaboration between disciplines is evident, as individuals with autism receive a wide range of services and treatments. However, it has not been directly demonstrated how alternative disciplines can complement ABA approaches, allowing more accurate and informed interpretations of variables in the environment. Therefore it is difficult to determine how parallel approaches could interact in a meaningful way to possibly provide a more in-depth explanation of behaviour and a better understanding of an individual's experience, especially when looking at more complex behaviours such as repetitive movement, vocalizations, and gestures. Subsequently, more research needs to be done looking at how different approaches to complex behaviour can be used concurrently, so that the strengths of each approach can be capitalized. In order to investigate such interdisciplinary efforts further, the current study looked at the extent of collaboration between two specific disciplines, which play a crucial role in the assessment and treatment of children with autism, using stereotypy as a prime example of a complex behaviour that is not fully understood by one approach alone.

ABA and Occupational Therapy

Individuals with autism receive a variety of services for a range of developmental needs, including behavioural intervention, speech therapy, psychiatry, physiotherapy, and occupational therapy (McLennan, Huculak, & Sheehan, 2008). Although many services are used simultaneously, it is unclear how they could work together in current practice settings. In order

to investigate the effectiveness of such collaboration, an occupational therapy approach was chosen to investigate its use in combination with ABA.

Occupational therapy addresses a variety of issues and includes a wide client base. Particularly when looking at models of occupational therapy for individuals with developmental disabilities, theoretical frameworks most commonly include client-centered practice, sensory-motor processing, and the development of play-skills (Case-Smith & Arbesman, 2008). Brown, Rodger, Brown and Roever (2005) discuss some of these models in their review of Canadian and Australian practices in occupational therapy. They found that intervention methods were most focused on environmental modification, occupation/activities of daily living, sensory stimulation, and parent-caregiver education. Other studies have also looked at occupational therapy approaches to motivation, sleep problems, and muscle relaxation (Harris & Reid, 2005; O'Connell & Vannan, 2008; Silva, Schalock, Ayres, Bunse, & Budden; 2009). Occupational therapists' use a variety of assessment tools to evaluate sensory-motor processing and they conduct extensive observation of clients in their natural environment (Brown, Rodger, Brown, & Roever, 2005; Case-Smith & Arbesman, 2008). Although there is not any research directly related to stereotypic behaviour in the occupational therapy literature, the focus on sensory processing, play skills, and environmental modification suggests that it is possible that they could provide some additional information to add to the overall understanding of this complex behaviour.

Occupational therapy specializes in the assessment of sensory-motor functioning and kinesthetic movement, making it a good fit when looking at the topographic and sensory properties of stereotypic behaviour (Case-Smith & Arbesman, 2008). The focus on play skills could also be influential, as studies have shown that play behaviour and stereotypy tend to be

negatively correlated (Koegel, Firestone, Kramme, & Dunnlap, 1974). Additionally, when focusing on antecedent assessment, the principles behind this approach seem to best facilitate evaluations of environmental events. A review by Case-Smith and Arbesman (2008) looked specifically at occupational therapy related interventions for children with autism. The authors discussed that occupational therapists routinely examined physiological responses to stimuli and sensory processing issues and also focused on rearranging aspects of the environment to promote pro-social behaviour. This aligns well with the behavioural focus on antecedents and may be a way to more accurately identify relevant setting events in the environment. The authors also indicated that occupational therapists often worked on interdisciplinary teams within corresponding settings to behavioural programs.

Occupational therapy and ABA are two common services received by individuals with autism. As demonstrated in a demographic study looking at service provision for children in Canada, occupational therapy and ABA were the most common services used among individuals with autism, next to speech-language pathology (McLennan, Huculak, & Sheehan, 2008). Most accurately resembling real-world circumstances, occupational therapy and ABA presented an interesting parallel when studying interdisciplinary collaboration. Insight into how each of these two practices could contribute to the others theoretical background and practice however has not yet been explored in the literature. The present study therefore focused on informing this area of clinical practice through a multi-layer investigation of interdisciplinary collaboration in relation to stereotypic behaviour among individuals who have autism.

Chapter 3

Research Design

In order to answer the proposed research questions, documentation via video recording of stereotypic behaviour among four children with autism were observed by professionals in the field of ABA and occupational therapy. Each professional was interviewed before and after observing the footage and asked specific questions regarding their interpretation of stereotypic behaviour and their thoughts around interdisciplinary practice. Through an in-depth qualitative analysis, the results of both interviews and observations were compared and any mention of antecedent variables was highlighted and discussed. The goal of this study was to identify similarities and differences across two services commonly received by individuals with autism, in order to facilitate future research around an approach to stereotypic behaviour through effective collaboration and interdisciplinary practice.

Qualitative Methodology

In order to determine the possible usefulness of the suggested approach (i.e., interdisciplinary assessment) an in-depth account of the similarities and differences of current disciplinary interpretations of stereotypic behaviour needed to be obtained. Because this had not been examined previously, it was important to first identify the pertinent variables related to both the assessment of stereotypic behaviour and the current dynamics of interdisciplinary practice in this area. A qualitative methodology was employed in order to gain a better understanding of individual perspectives and provide a detailed account of the possible relevant variables that may need to be further investigated in future research.

As described by Patton (1987), qualitative methodology has many advantages, especially when conducting exploratory research. He discussed how qualitative data provide in-depth

accounts of phenomena that are free from pre-existing expectations or set categories. It allows for more a more holistic understanding of people and events and opens up directions for future research. The benefits of such detailed descriptions are clear, especially when examining novel areas of research in which relevant variables are not yet identified. Due to the exploratory nature and overall goals and objectives of the current study, it was evident that a qualitative approach was most fitting.

Interviews

When conducting qualitative research many different means to collect data can be employed. As discussed by Lewis (2003) it is important to consider the nature of the subject being studied when deciding on data collection methods. She specifies that when a study is looking to capture detailed perspectives surrounding complex systems or processes, in-depth interviews are often the best tool to obtain such data. Interviews allow for more personal investigation and detailed responses. The current study was specifically comparing two individual perspectives of the same phenomenon therefore interviews seemed to be the most appropriate medium for this investigation. In-depth interviews allowed for a deeper understanding of each professional's interpretation of stereotypic behaviour, which provided rich comparisons of disciplinary practice.

In addition to selecting a specific method of data collection, the approach to each method must also be determined. Patton (1987) described different approaches to conducting in-depth open-ended interviews. He discussed those that were very unstructured, characterized by open conversation and spontaneous questioning and also more structured interviews that provided the same questions to each participant, with less flexibility around probing and wording. Due to the limited experience of the researcher and the need to provide the same questions to each

professional in order to prevent bias, a more structured open-ended interview was used.

Therefore the same questions were asked of each professional with minimal variation in wording and probes. This allowed for data to be compared more directly, as each professional was provided with the same opportunities to share his/her perspectives.

Finally, Patton (1987) also discussed the importance of interview content, that is what questions are chosen and in what order they are asked. He describes several areas in which questions could be centered, including an individual's experience or behaviour, opinions or beliefs, feelings, knowledge, and background. The interview questions in the current study touched on many of these critical areas. The first interview was designed to obtain information around each professional's current experience with stereotypic behaviour and collaborative models, therefore questions were mostly centered on individual experiences and behaviour (e.g., what is the typical assessment process you would go through to evaluate stereotypic behaviour?). Some opinion questions were also included as professionals were asked to reflect on the current methods and models of collaboration used in their practice (e.g., what are the disadvantages to this approach?). The second interview focused primarily on each professional's reflections of his/her observations, the other professional, and possible collaboration with the other professional. Many of these questions tapped into the knowledge base of each professional as well as the opinions and beliefs of a suggested model of practice.

Keeping in mind the different types of question outlined by Patton (1987), interviews were derived directly from the five research questions outlined by the researcher. Specific information around current practices needed to be obtained before evaluation of the proposed approach could be conducted. Questions were separated into specific categories that could later be used to organize responses and focus the analysis. An interview script was developed to guide

the interviewer through each question. Specific probes were used consistently across professionals in order to remain as unbiased as possible. Questions were sequenced so that broader concepts were inquired first, followed by questions around more specific experiences. Questions regarding the professionals' general interpretations and current experiences were asked in the first interview and more specific questions around actual observations and reflections were restricted to the second interview. Overall, the researcher attempted to obtain in-depth responses surrounding very specific experiences and perspectives, keeping in mind the specific research questions sought out by the study.

Sample and Recruitment

Two groups of participants were included in this study and each will be referred to differently. The first group included four individuals with autism who were video taped in the natural environment. The individuals in this group were referred to as *the participants*. The footage of these individuals provided an opportunity for parallel observation of the same behaviour and events. Data were not collected directly on these participants rather it was obtained through later observations by a second group of participants, which was made up of one occupational therapist and one behaviour analyst. They were referred to throughout the study as *the professionals*. Each professional was interviewed and they also reviewed the selected footage of the participants. The last group included two individuals who had considerable expertise in one of the two fields under investigation (i.e., applied behaviour analysis and occupational therapy). In addition to the primary sample of participants within this study, an expert from each discipline was consulted to reflect on the responses of each professional. The experts were considered mentors in their respective fields and were able to evaluate the degree to which

disciplinary standards were followed. Each group played an important role in the design and implementation of this study.

The Participants. The Participants were recruited through an Autism Movement Camp. In order to participate in the research, each participant had to have a diagnosis of Autism and have regular displays of sensory-motor type stereotypic behaviour, as verified by the parent. Prior permission by the camp director was received to recruit participants through a mail-out package sent to parents annually, providing important information about the camp (i.e., camp dates, parking information and the weekly camp schedule). All caregivers who had a child registered for the camp received a letter of invitation to participate in the study, which was included as an insert in the mail-out package (Appendix A). Those interested in participating were asked to contact the director of the camp or the researcher by phone or email.

Although five caregivers responded to the invitation, only four individuals were selected to participate in the study. The fifth participant did not meet selection criteria as he/she did not engage in stereotypic behaviour and did not have a formal autism diagnosis. The four selected participants all had a formal diagnosis of Autism Spectrum Disorder and engaged in high levels of stereotypic behaviour, as reported by the primary caregiver. Participant ages ranged from 10 to 20 years, and each had received a variety of services throughout their lives, including speech therapy, occupational therapy, applied behaviour analysis, and sensory integration therapy. Stereotypic behaviour in each participant included waving or spinning objects, hand flapping, vocal scripting, waving fingers or hands across field of vision, and finger snapping. All caregivers expressed concern around their child's stereotypic behaviour.

The professionals. A behaviour analyst (certified by the Behaviour Analysis Certification Board) and an occupational therapist (graduate degree in occupational therapy) were also

recruited to participate in the study. These individuals were the primary participants of this study, as it was their interpretations and perceptions that were of specific interest. It was from their interviews and reports on participant behaviour that data were obtained. Letters of invitation explaining the study were emailed to prospective professionals (Appendix B). Names of professionals were obtained through partnerships and community connections made by faculty members in the Applied Disability Studies program at Brock University. This sample was selected from a very narrow pool of possible participants. Therefore the first participants to demonstrate interest in the study were chosen to participate. A more randomized or selective sample was not possible due to the difficulty in recruiting professionals. The individuals selected were asked to participate in two separate interviews as well as to observe video selections and parent report summaries, and then provide written interpretations of stereotypic behaviour from the framework of their respective disciplines. The first behaviour analyst who was contacted agreed to participate in the study. Two different occupational therapists were contacted, as the first individual declined.

The behaviour analyst (BA) had been working with children with autism for approximately ten years. He/she had a Master's level education and was certified by the Behaviour Analysis Certification Board. The occupational therapist (OT) had been working in the field for 13 years, and also worked primarily with children with autism. His/her highest level of education was a graduate degree in occupational therapy. Both professionals disclosed that they had considerable experience assessing and treating stereotypic behaviour in individuals with autism. Each worked for agencies that specialized in their respective disciplines.

The Experts. The last group recruited to participate was a small panel of experts who could evaluate the responses of the professionals. These individuals were more like a review

panel than actual participants within the study. One expert from each field of interest (i.e., ABA and occupational therapy) was recruited through email requests. These individuals were teachers or mentors of their discipline. Contact information was obtained through the websites of the Universities they worked for. Experts were consulted in order to verify the responses of the professionals, as they compared to the standards perpetuated by each respective discipline. Both were emailed anonymous summaries of the interviews and observations of each professional and provided feedback regarding the responses reviewed.

Measures

Various measures were used to provide in-depth answers to the research questions proposed. The different methods used (i.e., interviews and observations) to obtain data not only provided parallel descriptions from each professional, but also served as verifiers within each case. Consistency could be checked across modalities and compared directly when looking at responses from each professional. Interviews were designed to delve into the perceptions and current experiences of each professional and also to provide a forum to reflect on the other discipline. Observations allowed for direct interpretation of the same individuals and events, which facilitated a parallel comparison of the interpretations provided by each professional. Observations were enabled by the footage provided by the four participants, as well as reports provided by primary caregivers. Finally the experts provided an additional level of verification of the respective professional's responses.

Interviews. Prior to observing the data, the professionals were asked to participate in a brief interview regarding the assessment process typically used to examine stereotypic behaviour according their own disciplinary standards (Appendix C). The interview consisted of eight questions regarding their common process in assessing stereotypic behaviour as well as their

current level of collaboration with other disciplines. Probes were used at the discretion of the researcher, however any probes used with one professional, were also included in the other professional's interview if possible. Demographic questions were also included in order to confirm each professional's level of education and years in practice. Each interview was scheduled at the convenience of the professional, and took approximately 45 minutes to complete. Responses were audio recorded and video recorded in order to facilitate accurate transcription.

Following each professional's observation of the participants, a second interview was conducted (Appendix D). This interview asked specific questions surrounding their observations, and their reflection on the other professional's observations which were sent to them one week prior to the second interview. Finally, questions were asked around the possibilities of an interdisciplinary approach to stereotypic behaviour. These questions were asked in order to get each professional's perception of overall usefulness of and barriers to interdisciplinary practice. Fourteen questions were asked and probed in the same manner as the first interview. The second interview lasted approximately 45 minutes for each professional. Once again responses were audio and video taped.

Observations Reports. In order to compare interpretations of stereotypic behaviour directly, each professional was asked to write a report on the same four participants who were engaging in various forms of stereotypic behaviour. By each professional reporting on the same observed behaviour and events, actual similarities and differences in approach and interpretation could be identified. Specific questions or probes did not guide the report, rather each professional was simply asked to provide his/her own interpretation based on what he/she felt was most relevant. They were asked to include any information that they would typically consider in their

first observations of a client. Not only were they provided with specific footage, but they were also provided with a parent report, which included some background information around the child's service history, medical concerns, and stereotypic behaviour as perceived by the parent.

The videos of the participants were created for the purpose of this study. In order to present to both professionals the same individuals and events in a controlled manner, each child was videotaped, while moving freely in the natural environment. A researcher and research assistant conducted all video observations and captured as much of each individuals' activity as possible. The researcher and a research assistant were each responsible for capturing the stereotypic behaviour of two children, obtaining approximately seven hours of video of each child. Video footage was then edited into smaller clips, which were systematically selected by the researcher. Because antecedents were a primary focus of the study, it was crucial that professionals were able to see not only stereotypic behaviour, but also the context in which this behaviour occurred within. Therefore when editing the footage, the researcher took the first five instances of stereotypic behaviour that occurred sequentially within the raw footage and included two and a half minutes before and after the onset of the behaviour. This enabled the professional to observe the events in the environment prior to the onset of stereotypic behaviour, and to look at events that occurred after the behaviour began. Each participant then ended up with a 25-minute video sequence of five different instances of stereotypic behaviour. Four participants were included in the study, therefore providing each professional with 100 minutes of video to watch and interpret, which included a total of 20 different instances of stereotypic behaviour.

In addition to the video clips, the professionals were also provided with reports from each participant's primary caregiver. In order to obtain this information, the caregivers were given a questionnaire developed by the researcher, which targeted information regarding their

knowledge and feelings about their child's service provision, health concerns, and stereotypic behaviour (Appendix E). The questionnaire included 19 questions. Caregivers were asked to give short written answers in the spaces provided. A short demographic section was also included, asking for information regarding the child's diagnosis, caregiver's relationship to child, and age of the child. Caregivers were given clear instructions to answer questions to the best of their ability and were asked to write their answers in the spaces provided. The report was developed by the researcher in order to obtain background information and parental perspective of stereotypic behaviour that could also be used in the professionals overall interpretation, as it was determined that they would typically have access to such client information in their usual practice. Each professional was provided with the same reports.

Using the footage of each participant and the parent report, each professional provided a written description based on his/her interpretations of stereotypic behaviour and the variables surrounding it. Professionals were not told how to write or format reports. Each professional had approximately one month to review the footage and write his/her report. Upon completion they were asked to send the report to the researcher via email with the full understanding that their report would be sent to the respective professional. One week prior to the second interview each professional was sent the others report to reflect on and review.

Expert Reports. The expert panel played a crucial role in verifying the responses of each professional. When all data from both professionals were collected, a summary was generated by the researcher and sent to an expert who taught or mentored within one of the two respective disciplines. These summaries were sent via email and responses were returned in the same manner. Both experts and professionals remained anonymous to one another therefore no

identifying information was included in the summaries. The report provided by the expert was then compared against the data produced by each professional.

Procedure

Ethics. Prior to commencement of this study, ethical approval was obtained through the Brock University Research Ethics Board. A proposal was drafted and submitted for approval in May of 2009. Approval for this study was obtained from the ethics committee on July 9, 2009 (File # 08-341). All attachments and components of the study including video recording sessions were approved. All modifications made to the study thereafter were submitted for review and approval.

Informed Consent. Before any data were collected, informed consent was obtained for all individuals involved in the direct production of data for this study. Consents forms were drafted for the professionals as well as the primary caregivers of the participants. Assent forms were also prepared for participants, however these were not appropriate due to the level of understanding demonstrated by each participant. Therefore authorized third party consent was obtained.

In order to obtain primary caregiver consent, the researcher scheduled meeting times to explain the consent form and provide an opportunity for caregivers to ask questions or express concerns. The consent form outlined all details of the study, expectations of the caregivers, and video recording procedures (Appendix F). They were also informed of the potential benefits and risks of the study, along with confidentiality information, publication procedures, and contact information. It was emphasized that they could discontinue their child's participation in the research at any time, and that it would have no impact on the child's participation or standing in the movement camp setting they were observed within. Caregivers were given time to carefully read over the consent form and ask any questions before signing the form.

Informed consent was also obtained from the two professionals. Again, the consent form described the study, providing full disclosure of intention to compare results to the respective discipline (Appendix F). The benefits and risks of the study were disclosed, along with information around confidentiality. Professionals were asked to sign an additional confidentiality agreement form (Appendix H) and it was highlighted that each professional was to keep the identities of the participants confidential and return all footage provided once observations were completed. Consents and confidentiality forms were signed prior to commencement of the first interview. Professionals were given time to review each form and were provided opportunities to ask questions or express concerns.

Pre-Interview Data. The site chosen to obtain observation material was within a two-week summer movement camp for children with autism called Autism Movement Camp. The camp was a community service learning program and an established site for research, housed by the Faculty of Applied Health Sciences at Brock University. Undergraduate students, who participated in the program for course credit, facilitated camp activities and worked one-on-one with the children. The program provided services for children with an autism diagnosis at various ages and levels of functioning. This site was selected as it provided a variety of situations in which stereotypic behaviours could occur. Additionally, the camp already had sanctions in place for video and photography for research purposes. The children were accustomed to such media, as photography takes place regularly on site.

The letter of invitation was sent to all caregivers of children registered to participate in the camp. From the pool of interested participants who met inclusion criteria (must engage in regular displays of stereotypic behaviour and have autism spectrum disorder), four participants of five were selected. Prior to commencement of video recording, caregivers were asked to

review and sign an informed consent form indicating their knowledge of all conditions of the study. Once informed consent was obtained, caregivers were given a questionnaire designed to obtain demographic and background information regarding their child. The researcher explained the purpose of the questionnaire and gave caregivers the option of returning the questionnaire by mail or in person. All caregivers returned the questionnaire directly to the researcher before the last day of camp.

Observations of the children through audio/video recording sessions began at the commencement of the Autism Movement Camp. The camp ran from August 24, 2009 to September 4, 2009 at Brock University. The day was structured around activities that took place at Brock University in the morning and outings into the community in the afternoon. Video recording sessions were conducted in the morning during the structured activities. These activities included gymnastics, gross motor activities, fine motor activities, and outdoor hikes. The children were also videotaped during transition periods from one activity to another, as well as during snack periods. Video recordings within community settings were not conducted. All individuals involved in the camp provided prior consent to audio video/recording, as this is a regular occurrence within the camp setting.

When conducting video observations, time was equally allocated to each child. The researcher along with a research assistant each taped two children throughout the two-week period. The researcher rotated recording times for participant one and two, allowing footage to be taken at different activities and times of the day, as both participants attended the full two weeks of the camp. The research assistant taped participant three during the first week of the camp and participant four in week two, due to participant four only attending one week of the movement camp. The research assistant had experience in observing behaviour in children with

autism and had a good understanding of the definition of stereotypic behaviour and the type of stereotypic behaviour that was the focus of the study. Both the researcher and the research assistant attempted to capture as much footage of the participants as possible, making an effort to record stereotypic behaviour in a variety of situations and activities. Commencement and cessation of video sessions were at the discretion of the researcher and research assistant.

To prepare the footage for the professionals, the researcher selected instances of stereotypic behaviour across a variety of activities. As recommended throughout the ABA literature, observations that cannot be viewed continuously should be broken down into short but frequent intervals (Cooper, Heron, & Heward, 2007). Following this recommendation, the researcher edited the footage using five minute intervals, attempting to leave approximately two and half minutes before the onset of stereotypic behaviour and two and a half minutes after behaviour begins, if possible. The researcher watched the video footage in sequence and picked the first five selections from different settings that met these criteria. The footage was broken down into a 25-minute selection for each participant, providing professionals with a summary of footage that was more manageable. The videos were edited through basic video editing software and burned onto digital videodisks.

Phase 1. The first phase of the study consisted of the pre-observation interview, which focused on questions surrounding the professional's general interpretation of stereotypic behaviour and current collaborative efforts with professionals from other disciplines. The interviews were conducted at locations and times requested by each professional, which included their homes and affiliated agencies. The researcher obtained informed consent at this time, followed by the confidentiality agreement. Recording equipment was set up and the researcher notified the professional that he/she could stop the interview at any time and skip any question

that he/she did not want to answer. The researcher proceeded with the interview questions, probing occasionally throughout the interview. Once the interview was completed, the professional was given the parent report and participant's footage to review and interpret. The researcher told each professional to provide their interpretation of the footage based on the standards and procedures defined by their discipline and was given an opportunity to ask questions or express concerns. Each professional was thanked for his/her participation.

Phase 2. The second phase of the study included the observation reports and the second post-observation interview. Professionals were given flexible timelines around their observations of the footage. The researcher checked in on each professional's progress two weeks after the first interview. Each professional completed his/her report in approximately one month. Upon completion, the professionals were asked to email their responses to the researcher. Each report was then sent to the respective professional one week prior to the second interview, which was scheduled with the professional via email correspondence.

Interview two was conducted in the affiliated agency of each professional. Prior to commencement of the interview each professional was asked to return the videos of the children to the researcher and asked to destroy any documentation or notes that contained identifying information. The researcher set up audio and video equipment and asked the professionals if they had any questions or concerns before beginning the interview. Once the interview was completed, the next steps of the study were explained to each professional, reminding them that experts would be reviewing their responses (which remained anonymous) and that parents would be receiving a brief summary of the interpretations of each professional as it related to their child. The researcher then asked the professionals if they would like a summary of the completed study and thanked them for their time and participation.

Phase 3. After completion of the post-observation interview, an anonymous summary from each observer was presented to an expert from each professional's respective discipline, in order to verify that the observations fit into what a typical professional in each respective field would provide. Experts included an individual who taught or mentored behaviour analysts and an individual who taught and mentored occupational therapists. The researcher summarized both interviews and provided the full observation of each professional to the expert (sent via email). Experts emailed their reflections to the researcher, verifying what components did or did not match up to disciplinary standards. These reflections were compared to the overall responses provided by the professionals.

Transcription. Directly after each interview the researcher transcribed data verbatim from audio recordings. Data were transcribed into word documents. This process took several hours for each interview. The audio recording device used was played back several times in order to get the exact wording used by each professional.

Organizing the Data. Once data had been transcribed the researcher went through each transcript and reduced the data into more coherent summaries. From this reduction, data were re-organized into specific categories, which corresponded directly with different topics discussed across the interviews. These included, 1) general interpretation of stereotypic behaviour, 2) experience with other disciplines, 3) interpretations of stereotypy in specific participants, 4) reflection on the other's perspective, and 5) collaboration with the other discipline. The observation reports were also reviewed and broken into two separate categories: interpretation of stereotypic behaviour and antecedents identified by each professional. The data were organized into charts based on the specific categories mentioned above (Appendix I).

Data Storage. All external video media were stored in a locked cabinet and up-loaded media was secured with a password. The researcher, the professionals, and the project supervisor were the only individuals to have access to the video media. Videotapes will either be given to caregivers of participants or destroyed at the conclusion of the study. Any footage or identifying data saved onto hard drives or external disks were permanently deleted. Any written records were made anonymous, using false names and not including any information that would reveal the identity of the participant.

Participant Feedback. All individuals involved in the study expressed interest in receiving a summary of the results, which will be sent at the end of the study, accompanied by a general feedback form (Appendix J). The caregivers of the participants will also receive a general report summary that includes the observations reported by each professional. Caregivers will be notified however that such information is in no way a formal assessment or clinical reference and it should be used for informational purposes only.

Data Analysis

Once data were reduced and organized, a content analysis by category was conducted, which allowed the researcher to take data that were organized into specific categories and further identify relevant patterns within such categories (Patton, 1987). The researcher began with a recursive review of the data, not only to become more familiar with the data, but also to identify how the data could be categorized (Ritchie, Spenser, & O'Connor, 2003). Within the data from each professional, prominent keywords, specific indigenous typologies, and general findings from all categories were recorded into tables to help organize data for comparison (Appendix K). This was done with both the data retrieved from interviews and the direct observation data

(Appendix L). A within case analysis was completed, providing a detailed descriptive account of each professional's data (see Figure 1).

Once the within case analysis was completed, a cross case comparison was conducted (see Figure 2), comparing each corresponding category of the two professionals (Appendix M). Similarly, categories across observations were also compared (Appendix N). From this analysis, similarities and differences were extracted, allowing for precise comparisons of the perceptions and interpretations of each professional. Specific findings that were indigenous to situations and events discussed in this study were highlighted, along with the parallels found within the existing literature. The researcher's project supervisor also reviewed the data and analysis process in order to provide an extra level of confirmation around specific findings identified by the researcher.

Chapter 4

Results

Through a rigorous qualitative analysis of a behaviour analyst's and an occupational therapist's interpretations of stereotypic behaviour and interdisciplinary practice, the perspectives of these two particular professionals were uncovered, opening up a window into the complex nature of collaboration between disciplines. The results of this study were organized into the six categories clearly outlined through the topics discussed within the interviews and observations of the professionals. The six categories included general interpretation of stereotypic behaviour, experience with other disciplines, child specific interpretations of stereotypic behaviour, reflection of the respective professionals' interpretation of stereotypic behaviour, perspectives on possible collaboration with the respective professionals, and finally antecedent identification by each professional (Table 1). Within each of these categories, an analysis within and across each case was conducted through careful reduction and deep description of raw data transcripts. Finally phase three of the study will be discussed. Within this phase a panel of experts was consulted to review the reports of both professionals in order to verify that responses fell in line with typical disciplinary standards.

General Interpretation of Stereotypic Behaviour

A major objective of this study was to identify how both professionals interpreted stereotypic behaviour within their everyday practice. Therefore questions aimed at approaches to assessment and treatment of this behaviour as well as disciplinary standards were asked of each professional through the pre-observation interview. Such questions provided insight into the daily practices of both the BA and the OT, as well as helped to identify similarities and

Table 1.

Results by Category	
<u>Category</u>	<u>Source</u>
• General Interpretation of Stereotypic Behaviour	• Interview 1
• Experience with Other Disciplines	• Interview 1
• Child Specific Interpretations of Stereotypy	• Interview 2 and Observations
• Reflection of the Respective Discipline	• Interview 2
• Collaboration with the Respective Discipline	• Interview 2
• Antecedent Identification	• Interview 2 and Observations

differences in perspective and approach. Beginning with a within-case description, the BA's and the OT's general interpretation of stereotypic behaviour were examined.

Behaviour Analyst. When asked specific questions regarding stereotypic behaviour and his/her typical assessment process, the behaviour analyst (BA) primarily discussed three distinct areas of focus, which included systems of measurement, function of behaviour, and reinforcement contingencies. The first steps in assessing stereotypic behaviour that he/she described were behaviour definition and data collection. He/she specified the importance of developing a topographic definition of the behaviour in order to facilitate objective measurement. Whether or not intervention was needed would depend on the levels and severity of the behaviour, making accurate measurement an important component for the BA. He/she discussed the importance of determining the intrusiveness of stereotypic behaviour through an evaluation of frequency and the degree to which behaviour was interfering with the acquisition of new skills. Specific methods to objectively measure the behaviour were crucial in order to make such determinations.

After measurement and data collection procedures were in place the BA discussed that the next step would be to assess the function of stereotypic behaviour. He/she described two main functional categories throughout the interview: automatic reinforcement and social reinforcement (i.e., attention or escape). He/she discussed how his/her approach would be different depending on the function of the behaviour. He/she critiqued practitioners who assumed an automatic reinforcement function and felt that a complete analysis of function should be completed to confirm assumptions around automatic reinforcement.

If an automatic reinforcement function was confirmed and the behaviour was found to be interfering, the BA discussed specific steps he/she would take in order to decrease the behaviour. His/her focus was primarily around reinforcement contingencies in terms of sensory feedback. He/she described the importance of finding out what type of feedback the individual was receiving from engagement in the behaviour. From this, competing reinforcement would be identified. However, he/she disclosed the difficulties not only around identifying the type of feedback produced by the behaviour, but also around finding reinforcement that was competitive enough to replace stimulation provided by the stereotypic behaviour. He/she explained that because the client would typically have free access to stereotypic behaviours, often replacement stimuli have to be more reinforcing, especially if they are to be made contingent on other behaviour. The BA discussed that stereotypic behaviour tends to require more effort than other behaviours in terms of identifying the function of behaviour and competing reinforcement, emphasizing the importance of data collection and measurement.

Occupational Therapist. When discussing his/her general experience with stereotypic behaviour, the OT focused mainly on three specific areas: everyday functioning, meaningful interaction, and engagement in productive activities. An emphasis on whether or not a behaviour

was impacting a child's everyday functioning was apparent throughout the interview. The OT explained that the behaviour would not be addressed unless it was negatively impacting the life of the child. He/she discussed that even if functioning was affected in some way, stereotypic behaviour would not be the sole focus of intervention. He/she talked about a more holistic approach, which emphasized overall interaction and engagement of the child with people and objects in the environment.

The OT emphasized relationship and rapport building throughout the first interview. He/she discussed the importance of initiating interactions that were meaningful to the child with the overarching goal of establishing joint attention and building rapport. His/her focus was around using a developmental relationship model, which encouraged caregivers to "join" the child in his/her behaviours. By doing so, the OT explained that the child's attention could be established, providing opportunities to build a deeper relationship and encourage more social interaction. In addition to the value placed on initiating interactions, participation in purposeful activities was also described as an essential focus of treatment.

Throughout the interview the OT discussed the importance of observing how a child interacts with the environment. The word "purposeful" came up frequently, in terms of identifying activities that were meaningful to the child and encouraging engagement in appropriate play (OT Interview 1, p. 1). The OT discussed stimuli in the environment that played a possible role in the engagement of stereotypic behaviour. He/she emphasized the importance of addressing stressful situations and acknowledging the meaning that certain behaviour may have in terms of coping with such stressors. Environmental factors he/she discussed included sensory aversions, excitement, ideational apraxia (i.e., not knowing what to do with an object), and anxiety. He/she talked about ways to overcome such stressors and fulfill

a child's needs (e.g., sensory activities), which in turn would open up more opportunities for appropriate play and engagement in activities. Appropriate play would be encouraged through relationship building and modeling, again with a focus on creating meaningful interactions with the child. The OT explained that stereotypic behaviour becomes less of a necessity for the child when stress is reduced and meaningful interactions are encouraged. Overall the OT's focus on interaction and engagement in activities provided an interesting parallel to the BA's perspective.

Similarities and Differences. When comparing the BA's and OT's general interpretations of stereotypic behaviour, many similarities and differences were identified. Discussion around the necessity of treatment and skill development were the two most prominent similarities found between the two professionals. However, differences in approach and focus were also identified specifically around how each determined the necessity of intervention, as well as the specific areas emphasized when looking at reduction of the behaviour. Although both professionals demonstrated similar priorities when assessing stereotypic behaviour, how the behaviour was approached was very different.

Both the BA and the OT discussed the importance of identifying whether or not stereotypic behaviour should be addressed. This can be observed in the comparison of two quotes extracted from the original transcript from each professional. Explaining his/her assessment process, the BA stated, "...so a lot of times your first step would be to, one understand what it is you are looking at, umm...determining levels and see does it need intervention? And what is the purpose of the intervention..." (BA Interview 1, p. 1). The BA's emphasis on determining a rationale for intervention was evident throughout the first interview. The OT also felt it was imperative to rationalize the need for intervention:

...we then look at function and how some of the behaviours are impacting the child's function... if the child has repetitive behaviour in and of itself but it is not impacting their function, I try to educate the parents about that in terms of ultimately looking at a function... (OT Interview 1, p. 1).

The OT indicated several times within the first interview that intervention would depend on the extent to which stereotypic behaviour was impacting an individual's "function" (OT interview 1, p. 1). The importance of indentifying the degree to which the behaviour was interfering and impacting was a common theme discussed throughout each professional's first interview.

Although both the BA and the OT emphasized the importance of determining a rationale for intervention, how this was decided was different for each discipline. The OT looked at general engagement, play, and joint attention through his/her own observations of the child. For example he/she stated, "Well I wouldn't have an assessment just of repetitive behaviour, I would be looking at how the child is playing and interacting, what their joint attention is like, how you can engage them in interactions... (OT Interview 1, p. 1)). He/she took a broader view of the child when determining whether or not stereotypic behaviour was interfering. Conversely, the BA made this same determination around the frequency of behaviour and interference with the development of specific skills. The following statement demonstrates the BA's emphasis on such factors:

... your first step would be to, one understand what it is you are looking at umm...determining levels, and see does it need intervention? And what is the purpose of the intervention... it also comes down to severity as well. Is this something that is impeding their ability to learn other functional skills? (BA Interview 1, p. 1).

Evidently, his/her evaluation of the behaviour was based on objective characteristics (e.g., frequency and skill acquisition), contrasting with the OT's focus on observation of overall engagement and play.

Another similarity that was identified was the idea of skill development as a way to reduce stereotypic behaviour. Both professionals discussed the importance of learning functional skills and the relationship of such skill development to overall rates of stereotypic behaviour. With a focus primarily on play skills, the following quotes demonstrate the connection made between skill development and reductions in stereotypic behaviour, beginning with the BA:

...once you teach other skills and abilities the rates aren't so intruding. It can be more difficult... I find in general if there is a long history umm...and also when you are having difficulty establishing other skills as well... (BA Interview 1, p. 2).

Similarly, the OT discussed increasing interaction as a way to decrease stereotypic behaviour:

...in terms of getting interactions going and keeping them going rather than having the child escape and doing hand flapping or repetitive kinds of things and then once the child is engaged more umm...then you see a reduction in those behaviours... (OT Interview 1, p. 6)

Both the BA and the OT discussed how skill development (whether it be specific skills or overall abilities to interact with others) was influential in the treatment of stereotypic behaviour. Consequently, as found in the previous discussion on rationalizing intervention, each professional's general approach reducing stereotypic behaviour was very different.

Differences in how each professional explained stereotypic behaviour were evident throughout the first interview. The BA was much more consequence oriented than the OT, focusing much more on the function of behaviour in terms of what type of reinforcement an

individual was obtaining. This emphasis is demonstrated in the following discussion of reinforcement and competing stimuli:

...I like to look at what's the quality of the reinforcer... can you identify items that compete... can you identify items that not only compete but also provide similar forms of reinforcement so that's where the analysis can become tricky...identifying similar types of reinforcers.. toys.. or activities... (BA Interview 1, p. 1).

The OT was more focused on aspects in the environment, describing stereotypic behaviour as a coping strategy or form of expression. The OT stated, "...I look at what's happening in the environment. Is the child feeling stressed in some way? Is there something going on that is stressing the child? So look at some of the sensory kind of components..." (OT Interview 1, p. 2). Such differences in overall approach were apparent throughout the first interview and were also evidenced in the general recommendations made by each professional. Specific strategies discussed by the OT included mostly sensory related activities (e.g., platform swings, chew objects, deep muscle input) while the suggestions made by the BA were more around finding items that could compete with the behaviour and provide more reinforcement than the behaviour itself.

In addition to variation in how each professional explained and approached stereotypic behaviour, difference in overall focus was also found. The BA focused more on functional properties of behaviour. Identification of function was reiterated throughout the interview as a crucial step in the assessment process. This is exemplified in the following statement by the BA, "...But in general what it comes down to is determining function umm...look for elements that can compete or serve as a similar sort of thing and how you implement it depends on the clients individual needs..." (BA Interview 1, p. 1). In contrast, the OT focused more on overall

interaction, joint attention, and productive activity. The function of stereotypic behaviour was not a primary concern. Her focus on promoting such behaviour is demonstrated in the following statement:

...my focus is having them engaged in productive activities...so again that stereotypic behaviour is one small element so it is not really a huge focus of my intervention it's a nice added bonus and I will address it, but its not my main goal. My main goal is to expand their play and their joint attention... (OT Interview 1, p. 3).

Although both professionals were interested in decreasing stereotypic behaviour, the different focal points discussed by each professional demonstrated how each would achieve the overarching goal of reducing stereotypic behaviour and teaching productive skills much differently.

Experience with Other Disciplines

In addition to questions regarding general interpretations of stereotypic behaviour, the first interview also focused on experience with collaboration and interdisciplinary teams. The questions were designed to identify the degree to which these specific professionals worked collaboratively with other disciplines. Each professional answered questions regarding the nature of their work with other professionals as well as described the advantages and disadvantages of working collaboratively based on their own experiences. Similarities and differences were highlighted through a direct comparison of each description of collaborative efforts in everyday practice.

Behaviour Analyst. Consultation and difference in perspectives were two areas highlighted throughout the BA interview. When asked about experience with other disciplines the BA discussed a consultation process that took place in his/her current agency. He/she

explained that blocks of time were available when he/she could access consultants who were from various disciplines (e.g., speech-language pathologists, occupational therapists, physiotherapists). He/she would identify children who were in need of such consults and recommendations would be made by the consultant that were “jointly agreed upon,” meaning that the BA would discuss recommendations with the consultant before implementing them (BA Interview 1, p. 2). The BA indicated however that because most professionals are consulting to his/her program, he/she makes the final decisions whether to follow through with recommendations.

The BA also discussed possible differences in perspective that can come up between professionals. He/she explained that this could be an advantage in the sense that other disciplines can highlight details that he/she would not typically think about. However he/she talked about how different perspectives can also turn into disagreements. He/she discussed disagreements around recommendations and interpretation of behaviour and how this can be a disadvantage when working with other disciplines if it interferes with the progress of the client. The BA talked about the importance of remaining focused on the client’s goals as well as engaging in ongoing dialogue with other professionals. He/she also discussed the idea of reframing ideas to a behavioural framework, explaining that this can often aid in better understanding differences with other professionals. The BA suggested that often interpretations could be “recaptured” using behavioural principles and language (BA Interview 1, p. 4). Overall, the BA discussed his/her current experience with collaboration through a model of consultation as well as highlighted some of the difficulties of working with professionals who come from a different theoretical framework.

Occupational Therapist. Throughout the first interview the OT discussed the nature of his/her interactions with other disciplines inside and outside his/her agency, as well as some of the challenges faced when working with other professionals who come from different theoretical orientations. For the OT, collaboration occurred most often within his/her agency among specific partners working from similar theoretical frameworks. He/she discussed his/her professional relationships with speech-language pathologists and physiotherapists within his/her agency as being highly collaborative. He/she explained that the high degree of familiarity maintained through frequent team assessments, treatment planning, and similar overall philosophies, facilitated such collaboration. Conversely, a different dynamic was discussed when referring to professionals with whom the OT did not frequently work with, but instead, with whom he/she either consulted or those who consulted within the agency. Such professionals often came from very different philosophies and interacted minimally with the OT.

The OT also discussed a consultation model when describing interactions with outside professionals. He/she talked about the nature of working with other disciplines that he/she consulted to outside the agency, as well as professionals who were requested to come to his/her agency as consultants. He/she specifically described his/her experience consulting to resource teachers. He/she found this group more difficult to work with as they had very different perspectives and tended to have different priorities. He/she talked about having to encourage resource teachers to look at things differently. The OT also talked about his/her experience with professionals from a behavioural orientation, however these professionals were only called on for consultation around severe behavioural problems such as self-injury. He/she spoke very positively about the different perspective that these professionals provided. However he/she also

disclosed that such consultations were very rare. The OT's description of the different types of interactions with other professionals provided an interesting comparison to the BA's experience.

Similarities and Differences. Comparing responses between the BA and the OT regarding their typical experiences with collaboration provided insight into the specific similarities and differences that were found at both systemic and professional levels. Similarities were identified in terms of how collaboration was directed within the agencies of each professional, tending to be engrained as the model prescribed within the system. Similarities between the professionals were found in terms of different theoretical perspectives being perceived as both an advantage and a disadvantage of collaboration. How such disadvantages were handled differed for each professional.

A major similarity between the two descriptions of the collaborative process was the common reference to such initiatives being very much agency specific. Both the BA and the OT discussed the designs of their programs as primary drivers in how they collaborated with other professionals. Both of the agencies that each professional worked within seemed to be similar in that both subscribed to a consultation model. Consultation for both professionals was very similar in terms of it constituting another discipline providing recommendations that were requested by a specific program. Individuals supervising the program would decide whether or not such consultation was needed and whether recommendations would be implemented. This can be demonstrated in the following statement by the BA, "...what tends to occur is...we'll have blocks of time when we can access S-LP or OT service...if they are not part of an S-LP program or OT program we will identify children where it may seem appropriate for input..." (BA Interview 1, p. 2). Similarly the OT described his/her experience with professionals from a behavioural orientation as only necessary for instances of severe behaviour, indicating that

“[consultation with BA] rarely happens and that’s if there is perhaps some self-injurious behaviour or... the child has a real tough time with...a certain issue...” (OT Interview 1, p. 3). Similarly to the BA, the OT decided when behaviour was severe enough to deem behavioural consults necessary.

The main difference in these two models was that the BA did not work regularly with other disciplines outside consultations within his/her agency, while the OT worked closely with both speech-language pathologists and physical therapists that worked inside his/her agency. The OT discussed that all three groups of professionals (OT included) subscribed to similar philosophies and often their roles were interchangeable. He/she described this as “very transdisciplinary...we don’t tend to just wear our own hat...we learn through each other in working with each other and we are a consistent team all of the time...” (OT Interview 1, p. 5). However, when interacting with disciplines outside his/her agency, consultation was the primary form of interaction, again similar to the model used by the BA.

In addition to comparing practices at the agency or systems level, similarities and differences were also found within the perspectives of each professional. The most prominent similarity found was that both the BA and the OT perceived the addition of different perspectives to be advantageous, but at the same time they also highlighted the disadvantages of disagreements that could also occur around interpretation of behaviour and specific recommendations. Indicating the benefits of other perspectives the BA stated:

...sometimes when you are working so closely with your clients you can sort of see things the way that you typically seen them... any outside professional at times can provide you with another idea set...so I mean that can help with bouncing things off...
(BA Interview 1, p. 3),

The OT made a similar statement, which discussed how the input of other disciplines provided “different perspectives, different ideas... is the main advantage of it...going through something...in a very structured or rigid kind of manner helps you to look at things in a different way...” (OT Interview 1, p. 5). At the same time, however, both professionals expressed concern regarding disagreements that could occur when dealing with multiple approaches. Conversely, how each perceived and managed such disagreements was very different.

Although both professionals discussed the importance of frequent discussion and interaction as an important factor in understanding perspectives, the BA was more oriented towards re-working differences into his/her own framework. He/she frequently talked about attempting to “re-frame” recommendations stating that:

...a lot of the actual recommendations themselves can be recaptured or reanalyzed according to behaviour principles. A lot of it can be looked at as antecedent manipulations umm...so in that way I think that although the wording used or the theory behind it may differ, a lot of the actual procedures could be used in a behaviour analytic perspective” (BA Interview 1, p. 4)

Contrary to this approach, the OT talked more about how he/she would try to have conversations to explain his/her perspective to other professionals. This is exemplified in the following discussion around consulting to resource teachers specifically:

...they [Resource teachers] come from... a learning kind of perspective in terms of a kind of a pre-academic kindergarten readiness kind of skills perspective that umm...sometimes working with them... they do get sometimes stuck on products rather than the process...so we do have discussions about the umm... children in terms of lets look at the process...that’s much more important (OT Interview 1, p. 5).

From these discussions it was evident that there were some differences that existed between the professionals when describing current efforts to collaborate with other disciplines, however overall the BT and the OT had very similar models of collaboration that they followed, which involved brief consultation that was initiated based on their own evaluation of the child's needs.

Child Specific Interpretations of Stereotypic Behaviour

In order to further examine and directly compare the BA's and the OT's perspective of stereotypic behaviour, both professionals were asked to provide their general interpretation of the same four children engaging in various forms of stereotypic behaviour. These interpretations were discussed within the second interview as well as through the observation report written by each professional (i.e., phase two of the study). Consistency was highlighted across both sources and also compared to responses made within the first interview. Any novel similarities and differences were also discussed, in order to determine further levels of variability in perspective and approach to stereotypic behaviour.

Behaviour Analyst. Similar to the results of the first interview, the BA placed considerable emphasis on measurement of behaviour, functional properties, and reinforcement contingencies surrounding stereotypic behaviour. He/she also highlighted throughout his/her observations, the importance of determining the need for intervention. However, he/she now discussed this need through the observations of specific clients. Recommendations for specific data collection methods in order to evaluate the level of intrusiveness were recommended for all participants observed. Although he/she did not specify what properties of the behaviour would be measured in order to obtain this information, the concern around rationalizing the need for intervention was consistent across both interviews and the observation report.

The importance of determining function was reiterated throughout the second interview and the observation report. The BA discussed distinguishing between social reinforcement functions and automatic reinforcement functions, suggesting that a systematic way to determine function was necessary in order to confirm recommendations for intervention. Reinforcement contingencies were also discussed within phase two of the study. The BA talked again about determining competing reinforcement and also discussed the possibility of making stereotypic behaviour contingent on other behaviour. When discussing possible automatic reinforcement functions, he/she discussed sensory stimuli as a consequence of stereotypic behaviour, specifying the need to identify the stimulation that was produced by the behaviour in order to provide competing stimuli. When discussing stereotypic behaviour as a contingent, the BA suggested using “first – then” language in order to require a specific behaviour first in order to gain access to stereotypic behaviour. He/she suggested using stereotypic behaviour to motivate the participants to engage in other activities.

Although all three areas that the BA focused on in the first interview were restated in the second interview and observation notes, these areas were expanded upon, as specific recommendations were highlighted based on actual observation of stereotypic behaviour. He/she made general recommendations that were centered primarily around providing structure and determining goals for the participants as well as identifying competing reinforcement and limiting access to items used to engage in stereotypic behaviour. A strong emphasis on goal selection and curricular design existed throughout the BA’s observations, including recommendations around the need for individualized programming and clear instruction. The recommendations and suggestions outlined in the observation notes were consistently reiterated

during the second interview when asked specific questions regarding direct observations of the participants.

Occupational Therapist. The observations made by the OT were also consistent with the areas he/she discussed within the first interview. His/her emphasis on everyday function and engagement in purposeful activity/interactions was apparent throughout the second phase of the study. However, further discussion around lack of communication, meaningfulness of activities, and availability of items used to engage in stereotypic behaviour was evident throughout the second interview and observations.

The OT observed a lack of communication between participants and their facilitators. This directly related to his/her emphasis on engagement in interactions discussed in the first interview. The OT was concerned that the participants were not able to communicate their needs or preferences effectively, resulting in disengagement with facilitators who were working directly with them. The OT made several recommendations around the use of visual aids and graphics to facilitate better communication between the participants and their facilitators. He/she talked about how such visual cues were especially important around times of transition, due the increased stress the participant might be feeling. By reducing stress through the clear communication of expectations, stereotypic behaviour could be reduced.

The OT also discussed how reductions in stereotypic behaviour would also occur if activities presented to the participants were meaningful to them. This idea was also emphasized in the first interview. The OT talked about the importance of children being engaged and interested in activities around them. He/she felt that these particular participants were “not terribly interested” in activities and were not encouraged by facilitators when they were engaged. (OT Interview 2, p. 1). The OT described a situation in which a participant was engaged in an

activity but removed for no apparent reason. Suggestions around following the lead of the child and encouraging current engagement were made, along with a strong emphasis on choice making. The OT felt that more choice needed to be available to the participants in order to ensure activities were meaningful to them.

In addition to suggestions around encouraging communication and engagement in activities, the OT focused on the excessive availability of items used by the participants to engage in stereotypic behaviour. He/she felt that these items should only be available during selected times, particularly during situations that produce high levels of anxiety or stress for the child (i.e., transition times). Outside those specific times, the OT discussed the importance of providing meaningful activities in which the participant would want to engage, reducing the need for stereotypic behaviour. Overall the OT expressed that he/she would not directly address stereotypic behaviour in the selected participants, rather he/she would work on functional participation and engagement in activities. The OT consistently discussed the three areas highlighted across the second interview and observation notes. Additionally, all three areas directly related to the points described within the first interview, looking at the OT's general interpretation of stereotypic behaviour.

Similarities and Differences. When examining each professional's interpretations of the same participants engaging in stereotypic behaviour, similarities and differences were found across the second interview and observation reports, many of which were consistent with comparisons made within the first interview. Discussion around necessity of treatment, for example, was still apparent throughout both the BA's and the OT's second interview and observations. Also, differences in overall focus in terms of reinforcement and function (BA) versus environmental variables and engagement (OT) were observed once again in the second

phase of the study. However, new areas of focus were also revealed, outlining specific similarities and differences between the two professionals' interpretations of stereotypic behaviour. These included similarities around concerns about availability of objects used to engage in stereotypic behaviour, how activities were chosen and presented to the participants, and a lack of clear expectations. Although all of these areas were of concern for both the OT and the BA, discussion on how each professional would address these issues were very different.

The excessive availability of objects participants used to engage in stereotypic behaviour was discussed throughout both professionals' observations. They were each highly concerned with the amount of free access participants had to these items, and both felt that items could be used in a more systematic manner. How these items would be used, however differed considerably between the OT and the BA. The BA suggested that such items should be used as reinforcement to encourage more engagement in desired behaviour. He/she talked about specific instances when this was attempted and how this could be a possible direction taken with some of the participants. Conversely, the OT recommended that items participants used to engage in stereotypic behaviour should be given during "times of transition" or when the participant was experiencing stress (OT Interview 2, p. 1). He/she described the use of such items as a possible coping strategy to ease the impact of transitions and changes in routine. Although both professionals felt that free access to items was unnecessary, the way each described how items should be utilized differed greatly, with the OT putting much more emphasis on coping and dealing with stress and the BA again focusing more on reinforcement contingencies.

The second similarity that came up across both the observations and the second interview was concerns regarding the way activities were presented to the participants. Both the BA and the OT felt that the children were not interacting enough with activities in the environment and

each suggested that changes needed to be made in how the facilitators initiated engagement with activities. However, recommendations around how such changes should be encouraged were very different between the two professionals. As demonstrated in the following statement by the BA, he/she was most concerned with providing a more structured environment that had a clearly outlined curriculum with distinct goals for each participant:

...I don't know how much of it is necessarily an issue with stereotyping so much as it might just be more beneficial for some sort of curricular design in a sense or goal design... (BA Interview 2, p. 1)

The OT, however, approached this issue very differently. He/she discussed a more client-focused approach, which emphasized the participants having choice around activities and the importance of taking the participants' lead when they are engaged in a particular activity. The OT gave a specific example within her description of one of the participants:

...I think certainly for him there is more opportunity to engage him in interactions with his facilitator... had his facilitator...honed in on his interests...reading the book... he was engaged, he was pointing and so forth but as soon as it came to an end of the book instead of going back and reviewing it and following his lead within the book because he was engaged in it...so no that's done lets move on to another one, well then she lost him" (OT Interview 2, p. 2).

The OT identified the environment of the participants as much too rigid in terms of the facilitators directing the children where to go and what to do, while the BA felt that a more structured curriculum with specific goals should be implemented. The two interpretations provided an interesting contrast in terms of how to approach the same issue.

Finally, a lack of clear expectations was also identified by both professionals as considerable issues observed within each participant's environment. The BA reiterated this issue multiple times throughout his/her interview and observation report stating that, "it could quite possibly be that they are not engaged with the activities because the expectations are not as clear" (BA Interview 2, p. 2). The OT was also concerned with this issue as he/she stated, "I think a lot of the observations where... does the child understand what is being asked of him...and the observation again about the communication, lack thereof...in terms of a lack of use of graphics" (OT, Interview 2, p. 3). Again, however, differences were identified when looking at specific recommendations made by each professional. Such differences were not only observed within the interviews, but also through the general recommendations identified within the observation reports.

When looking at how to approach the issue of unclear expectations, it was evident that each professional interpreted this situation very differently. When looking at the BA response, he/she again focused primarily on designing a curriculum that outlined specific goals and objectives for the participants. This is demonstrated through a section written within the observation report, referring to a particular participant. The BA stated:

"Curricular revision in conjunction with a team attempt to make individual goals (i.e., ensure instructions are at his level and elements of interest are included such as incorporating activities similar to string play)" (BA Observation Report, p. 2).

The provision of a more structured environment was reiterated throughout the BA's interview and observations. He/she felt this was an important way to outline clear expectations and goals for the participants allowing less time for engagement in stereotypic behaviour. The OT however felt that effective communication had to be increased between the facilitators and participants.

He/she suggested the use of visuals and graphics to help prepare participants for transitions as well as provide opportunities for them to communicate their needs to the facilitator. The OT's emphasis on communication and understanding of the participant's needs is exemplified within the following statement:

...I felt that in general that for all the...all four clients umm the communication aspect with their leader or facilitator or whatever was an area that could be enhanced upon to help with transition time... there was no use of graphics and I think for at least for several of the children graphics were indicated that were used at home and were found to be helpful but there was no... there was nothing used...whether it be graphics or just pictures...doesn't have to actual...if they can't do the symbol level. And a lot of the times it really didn't look like the children were terribly interested in the activity, there was not choice given to them. (OT Interview 2, p. 1).

As can be taken from both professionals' interviews and observation reports, engagement in stereotypic behaviour seemed to be directly related to how the participants were interacting with the environment and a lack of clear expectations. Although the BA and the OT agreed on the areas that needed improvement, it was apparent that they would tackle such issues using very different approaches.

Reflection of Other Professional

In addition to questions around stereotypic behaviour, each professional was also asked to reflect on the observation report written by the respective professional. The observation reports on the four participants provided an opportunity for each professional to reflect on the others interpretation of the same individuals and events. Each discussed similarities and differences that they interpreted across observations and reflected on the usefulness of the others

report. The reflections were compared in order to provide insight into the possible factors that could facilitate or hinder collaboration between these two professionals.

Behaviour Analyst. When reflecting on the OT's observation report the BA identified several similarities and differences that existed when comparing the observations to his/her interpretation of the same behaviour. The BA's general thoughts surrounding the perspective of the OT was that he/she felt that this was someone he/she could easily work with. They seemed to be on the same page in terms of identifying the same goals and needs for the participants. The BA also identified similarities around seeing the need to expand interaction and identify feedback produced by stereotypic behaviour. He/she said that both had the idea of "using stereotypic behaviour to our advantage," meaning that each recommended allowing engagement of such behaviour at certain times. Overall the BA felt that they would probably agree on the first impression to add structure and clear, individualized goals for each participant.

In addition to similarities, the BA also identified some areas where he/she felt the OT's report diverged from his/her interpretation of the behaviour. Differences were primarily identified around the interpretation of the causes of behaviour (e.g., fear response vs. difficult demand) as well as around how the OT described specific situations. For example, where the OT described someone as "bored," the BA disclosed that he/she would have described the same individual as unclear of "what the expectations were" (BA Interview 2, p. 3; OT Observation Report, p. 1). The BA also felt that the rationales behind some of the OT's recommendations were unclear, describing that some distinct differences in overall focus were apparent, such as the OT looking at "the body in space" and "rocking behaviour to help cope" (BA Interview 2, p. 3). The BA discussed how he/she would not focus on these aspects and would describe the same

participants much differently, however he/she did not think such differences in interpretation would impede the ability to work together, as the overall goals for each client were the same.

Although the BA felt that he/she and the OT had some commonalities and strived towards the same goals, he/she also disclosed that the report did not add anything to his/her current interpretation of the participants' behaviour. He/she said that because their goals were the same, the report did not reveal anything new outside his/her own observations. The BA suggested that further discussion with the OT might reveal more insights and new information. He/she found the report limited in that they were not able to see the client together and engage in ongoing dialogue. Overall, similarities and differences revealed in the BA's reflection corresponded directly with those identified in the cross-case comparison (i.e., different approaches to similar goals) discussed in the previous section, indicating some consistency around the researchers identification of differences and those discrepancies perceived by the professional him/herself.

Occupational Therapist. The OT's reflection of the BA's report was brief, yet it provided some valuable information around how he/she perceived the other's observations. Generally, the OT felt that the BA report described similar issues within the environment including the lack of communication as well as the frequent availability of objects used to engage in stereotypic behaviour. He/she felt that they were very similar in their recommendations around having such objects available at certain times. Overall the OT found the reports to be very comparable in that they both looked at similar variables surrounding the behaviour.

Differences identified by the OT were mainly around the added structure emphasized throughout the BA's report. The OT described the BA as providing more detail in terms of suggesting methods for collecting data and measuring specific behaviour. The OT mentioned

that he/she identified very few differences between the two reports, however discussed her increased focus on sensory components within each participant's environment. The OT found the added structure and objectivity provided by the BA to be a useful component however discussed that he/she did not learn anything new from the report. Again, the similarities perceived by the OT were similar to those identified in the previous section, however the reflection provided by the OT did not outline as many differences between the two professionals as were identified by the researcher (i.e., differences in overall approach) or the BA (i.e., differences in interpretation of behaviour).

Similarities and Differences. Both reflections of the other's report were very similar in that they both commented on overall goals for the participants. Additionally, each professional tended to re-frame the other's interpretations to fit his/her own understanding of the behaviour or situation. Differences were described in more detail by the behaviour analyst, who was much more critical of the OT's report. Overall the direct comparison of each report provided some interesting suggestions toward attitudes around interdisciplinary collaboration between BAs and OTs.

The first major similarity found between each professionals reflection of the other, was that both expressed that they could easily work with the other and felt that many of their recommendations were similar. The BA stated that his "first gut instinct was it sounded like someone I could probably work with" (BA Interview 2, p. 1). Similarly, the OT discussed how "a lot of the thinking was along my line...I mean the follow up questions and things like that..." (OT Interview 2, p. 3). However, consequently they both often reframed each other's perspective to better match up to their own, at times even changed the meaning of what the other had

discussed. For example the OT took the BAs comment on making stereotypic behaviour contingent to be the same as her comment on using the behaviour as a transitional device:

Again some the observations or questions were using contingent kinds of things so questioning whether to go that route which again was my thinking in terms of let having the object less available and using it a certain points of time... building in at times whether it be part of like a sensory diet kind of thing or at times when you know the child might have more difficulty...perhaps times of transition. (OT Interview 2, p. 3).

The BA also reframed this particular recommendation stating that similarities were found within “the use of...umm... in a sense... so, ok, so these behaviours occur how can we somehow modify them or use them...you know. So I think that was...that was somewhat a commonality as well” (BA Interview 2, p. 4). However when describing differences between their reports he/she expressed that he/she was unsure what the OT meant by a “transitional object,” which is what he/she was referring to when he/she discussed “using” stereotypic behaviour at specific times (BA interview 2, p. 3). This finding suggests that perhaps there may not be as many similarities in their observations and recommendations as perceived by each professional, due to the tendency to re-frame responses to fit their specific disciplinary discourse.

Although both disciplines felt they were very similar and that they could work with one another, both expressed that they did not find that the other’s report provided any new information around the participants or stereotypic behaviour. Both the OT and the BA discussed that this information was typical of what they have received from such professionals in the past. However, the OT expressed some interest in the components added by the BA, including data collection and systems of measurement. He/she indicated that he/she thought it was “beneficial to have the input and the collaboration of the behavioural therapist...from a structured

measurability sense” (OT Interview 2, p. 4). Conversely, the BA felt that he/she was not sure “how much this report would necessarily add because it is coming to the same conclusion...so at that point I don’t...I don’t really see it as that helpful in a sense... because we sort of agreed on what the goal is...” (BA Interview 2, p. 5). From each reflection on the usefulness of the other report, the OT seemed to express more interest in some components of the BA’s report.

The BA was also much more critical of the OT in the sense that he/she discussed many more differences between the two reports. The BA was very candid regarding recommendations that he/she did not fully understand or situations he/she would describe differently. The OT did not expand beyond differences described around the amount of detail presented and implementation of data collection, stating that the two reports were “not so much different but more detail oriented in terms of the rate of stereotypy when a ritual was presented and umm come in with the whole measurement part of it in terms of frequency and what if you modify or umm... but in general very similar” (OT Interview 2, p. 3). Although the BA did agree with this difference, suggesting that he/she would be more specific in some areas, he/she also identified specific suggestions within the OT’s report that were different or unclear. For example in the section where the BA discusses the OT’s recommendations around transition issues he/she stated:

...I was a little unclear in terms of her idea or his idea of a transitional object because...there was some assumptions, which most people make in terms of...what’s the rationale for it...I think it was...coping with change or something like that...I tend to be a little more specific in terms of what the events were occurring so that would be one area that I probably wouldn’t necessary connect all those dots (BA Interview 2 p. 3)

The BA was clear about areas the OT touched that did not match with his/her interpretation, where the OT did not go into detail regarding specific areas of contrast between the two reports. Overall the direct comparison of each professional's perception of one another's observations provided a preliminary level of comparison that could accompany each professionals report on collaboration with the other discussed in the next section.

Perspective on Collaboration with the Other Professional

Following each professional's reflection of the others report, they were asked specific questions regarding the advantages and disadvantages of interdisciplinary collaboration with the respective discipline. Based on their own experience and the current observations, questions around the benefits and barriers to collaboration were asked, exploring specifically how the other's input influenced each professional's overall understanding of stereotypic behaviour. Both professionals were also asked to describe what could be done by their own discipline as well as the other discipline to improve collaboration. The aim of this section was to get an idea, of how collaboration, according to these particular professionals, could contribute to knowledge around stereotypic behaviour, the barriers that are currently perceived, and the perception of collaboration between these two professionals specifically.

Behaviour Analyst. When discussing collaboration with the OT, the BA talked about this being "client dependent" and the need to "prioritize" clients for utilization of such services (BA Interview 2, p. 5). When asked if he/she thought collaborative approaches could help benefit the understanding of stereotypic behaviour, the BA reiterated that it again depends on the client involved and also on the other professional involved. He/she explained that he/she had "worked with some occupational therapists where we've worked quite well together, others not so much...umm I am sure every OT you talk to will say the same thing about behaviour analysts"

(BA Interview 2, p. 5). The BA did not however describe how this relationship could benefit the general understanding of stereotypic behaviour. He/she remained focused more on the facilitation of professional relationships and determining the need for such collaboration (i.e., when to call on such resources). The BA discussed the importance of having a shared goal when working together as well as time to discuss perspectives in detail.

In addition to questions around the possible benefits of collaboration, the BA was also asked to reflect on any barriers that made working with OTs more difficult. Consistent with his/her discussion around working with other disciplines in the first interview, the BA discussed differences in theoretical perspectives as a possible barrier to collaboration. He/she discussed that different disciplinary models can “lead us down different paths in terms of what skills to develop...umm or how to respond to certain behaviours” (BA Interview 2, p. 6). He/she suggested that ongoing conversations and strong working relationships could help overcome such barriers, however he/she explained that this was often difficult due to the limited time available during consultations. Another barrier he/she discussed was more specific to the field of Behaviour Analysis. He/she discussed that behaviour analysts’ insistence on data collection can cause difficulty when consulting to other professionals, especially if BAs are not designing systems of data collection “that are responsive to the environment” (BA Interview 2, p. 6). Additionally he/she talked about rapport building as an important component to overcoming misunderstandings and to promoting better collaboration between BAs and OTs, restating the importance of keeping focused on the goals of the client.

When asked to reflect on what could be done by OTs to better facilitate collaboration, the BA felt that more understanding around the need to collect data and define behaviour would be helpful, along with more openness to dialogue surrounding this issue. He/she felt that it was

important for OTs to understand what BAs “see as valuable” (BA Interview 2, p. 7). The BA was also asked to reflect on his/her own discipline in terms of what could be done better to promote more collaboration with OTs. He/she discussed interpersonal issues that are common among BAs, in terms of being able to explain their perspective effectively. He/she felt that BAs had to realize that other professionals might not see things the same way. Additionally, the BA felt that dissemination was very important, however behaviour analysts needed to find better ways to do this among other disciplines. He/she emphasized “finding ways of disseminating it in ways where it doesn’t change the science...it doesn’t water down the science but at least it’s digestible” (BA Interview 2, p. 7). As can be taken from the previously discussed responses outlined by the BA, a variety of potential barriers to collaboration exist from his/her experience, however he/she also provided some suggestions around how interactions between these disciplines can be improved.

Occupational Therapist. In his/her discussion on whether collaboration would be beneficial to develop a better overall understanding of stereotypic behaviour, the OT reaffirmed the importance of his/her goal of functional participation and the importance of choice in reducing non-productive behaviour. The OT explained that collaborative models would only be necessary if “the behaviour is impacting the child’s functional abilities” (OT Interview 2, p. 4). He/she also discussed that a collaborative approach with a behaviour analyst would be beneficial if behaviour was not related to sensory input, and was instead more socially mediated (i.e., attention seeking). He/she explained that when a child is engaging in stereotypic behaviour for attention, for example, the input from a behaviour analyst could be helpful especially in terms of providing data and systems of measurement. Finally he/she discussed sensory issues that could be involved and the importance of looking at those issues and discussing them with the BA if

they were to work together. In general the OT's experience with a behaviour analyst had been very positive. He/she felt that there had not been any overt issues in terms of their ability to work together. However a barrier he/she did mention was the lack of availability of behaviour analysts in his/her area. Resources were very limited in terms of providing behavioural consults to his/her agency.

When asked about what BAs in general could do better to promote collaboration, the OT again reiterated that his/her experience with the behaviour analyst he/she worked with had been positive, however he/she identified lack of open communication as a potential barrier to collaboration. He/she also discussed the importance of the BA understanding the developmental needs of clients, along with the impacts of cognitive delays and sensory processing difficulties. He/she said that someone that comes from a "pure" behavioural background might not understand the importance of these factors (OT Interview 2, p. 6). When discussing what OTs could do to better promote collaboration, he/she again discussed the importance of open communication and trying to work together. The OT's discussion on collaboration with the BA was framed within the consultation model, which was also emphasized when asked about current practice with other disciplines during the first interview. Also the concern around having to deal with differences in perspective reappeared again within the second interview.

Similarities and Differences. When comparing each professional's responses around collaboration, both the BA and the OT presented mixed feelings around the need for collaboration when working with individuals who were engaging in stereotypic behaviour. Also each outlined similar barriers to collaboration including limited time available for consultation visits and potential divergence of theoretical perspectives. Differences were found primarily in the responses of the BA, as he/she was much more critical of his/her own disciplinary practice

and expressed more concern around current models in the facilitation of collaboration. Overall the two professionals presented similar attitudes toward interdisciplinary models.

A major similarity found between the BA and the OT was the mixed feelings expressed around collaboration as a way to approach stereotypic behaviour. Both professionals were hesitant to generalize this idea with all clients. The BA explained:

...it depends on the professionals involved...I've worked with some occupational therapists where we've worked quite well together, others not so much...I am sure every OT you talk to will say the same thing about behaviour analysts...so I mean in terms of stereotype I have found it helpful for some clients in the past and for others not as much (BA Interview 2, p. 5).

Such uncertainty was evident within the response of the OT as well. He/she clarified that outside involvement of a BA would depend on the severity of the behaviour and why the client was engaging in stereotypic behaviour. He/she stated that:

Modifying if the stereotypic behaviour is quite problematic, what is the child getting out of it...sensory experience, are they getting attention...in this situation they weren't really getting attention they were just passively doing it, but other situations umm where I have had an involvement with a behaviour therapists it was definitely attention seeking behaviour... (OT Interview 2, p. 5).

Both professionals felt that a collaborative approach was only necessary for selective clients and/or situations.

Similarities were also identified in the OT and BAs description of barriers. Both discussed a lack of understanding of what is valued by the other discipline as a possible barrier to collaboration. The BA discussed this in terms of general differences in perspectives and also

highlighted this issue in his/her discussion on the emphasis of data collection within his/her field. Similarly the OT also discussed the possible barrier of a lack of understanding of the others perspective stating that BAs may not be:

...as understanding of the unique... especially the developmental needs of the clients that I serve...perhaps someone that comes from pure behaviourists background is thinking pure behaviour kind of approach, but when you throw in the cognitive delay and perhaps other behaviour therapists may not be as understanding of the impact sensory processing challenges can have... (OT Interview 2, p. 6).

Again, reiterating the need to understand what is valued and deemed important by the other professional.

Another barrier discussed by both professionals was the availability of time and resources to interact with the other professional. The OT discussed this issue more in terms of the limited availability of BAs to come into his/her agency for consultation. The BA talked about how even during consults, time was limited in terms of how much could be discussed within the short visits made by OTs, which he explained was the nature of the consult:

...it's quick...it's in...it's out. Umm which I understand but sometimes it cannot be as productive...umm and sometimes I think that's where there can be difference between umm two professionals... is that they are provided with a little snapshot that we give them...umm...so I in an ideal world it's something where umm...there's a clear goal you are looking for...and you actually have the time where it's not just a drop in, observe, here's my five tips and move on... (BA Interview 2, p. 6).

As expressed by both the OT and the BA, the importance of communication and understanding the others perspective was restricted by the limited opportunity for such conversations to occur.

Although both professionals' attitudes towards the benefits and barriers to collaboration were very similar, differences were evident in the manner in which each reflected on his/her own disciplinary standards. The BA was much more critical of his/her own discipline and how they could be better at promoting collaboration. The BA discussed how he/she realized that his/her "perspective can be quite different...but there are ways of getting the message across that are maybe... umm... I think we can be great at analyzing things but sometimes we are very poor at explaining" (BA Interview 2, p. 6). Conversely, the OT did not elaborate on his/her suggestions around improving collaboration within his/her field. In addition, while the BA had more concern around current models of consultation, expressing that he/she felt that interactions were too brief, emphasizing the need for the development of a working relationship to resolve conflicts and misunderstandings. The OT discussed the lack of availability of BAs as a possible barrier, however did not discuss this as a huge concern in his/her everyday practice. The BA was much more critical of his/her own practice, OT's practice, and current models (i.e., consultation).

Antecedents

The final objective of this study was to investigate antecedents identified by each professional in order to explore whether the OT added any unique interpretations of antecedents to the observations of the BA. Antecedents were extracted from the second interview and the observation reports of both professionals. Any descriptions of events leading up to or happening before stereotypic behaviour was considered an antecedent event, regardless of whether it was defined as such. A discussion around specific antecedents that were identified by both the BA and the OT will be followed by a direct comparison the types of antecedents highlighted by each professional.

Behaviour Analyst. The BA presented a variety of antecedents that could possibly be associated with stereotypic behaviour. Antecedents that appeared across the second interview and observations included the lack of clear goals and expectations, free access to items used to engage in stereotypic behaviour, and possible distressing or low demand situations. The BA explained that often expectations were not clear and it was not apparent whether instructions were appropriate for the functioning level of the participant. Also directly relating to stereotypic behaviour was the observation that participants had free access to objects that they used to engage in stereotypic behaviour. This observation led to questions around the possibility of reduced access to such items. The BA also questioned the effects of prior access to such items on future rates of stereotypic behaviour (i.e., if objects are removed are future rates likely to increase). Finally the impact of distressful situations was also discussed in terms of “level of upset” in one particular example (BA Observation Report, p. 4). The impact of large crowds and possible noise was also discussed as a potential antecedent. In addition, the BA discussed low demand situations as a possible antecedent, meaning that the facilitator was either not requesting participation or a particular response from the participant. Overall, the BA’s description of antecedents was focused heavily on observable aspects of the environment.

Occupational Therapist. Antecedents identified by the OT centered mostly on participants’ engagement in activities and one-on-one interactions, as well as perceived internal states including fear, anxiety, and stress. The OT discussed lack of interaction with activities frequently throughout the second interview and within his/her observations. He/she felt that in many cases the participants were not engaged in selected activities and due to the lack of choice involved, participants were not motivated to participate. The OT stated, “most of the activities required of the child were not chosen by him therefore appeared less motivating and meaningful

to him given observations of his general affect” (OT Observation Report, p. 1). The OT strongly emphasized this point with each participant observed, indicating the importance of the activities being meaningful to the participants. Additional antecedents identified included interpretations of participant affect and internal states. The OT discussed stressful situations as common precursors to stereotypic behaviour (e.g., times of transition or when expectations are unclear). Also times when the individual was experiencing fear or anxiety was commonly discussed, along with issues around sensory deficits and motor planning that could result in stereotypic behaviour. The OT was most focused on the needs of the participants when describing antecedents, specifically around meaningful activities and situations that cause stress.

Similarities and Differences. When comparing descriptions of antecedents between the BA and OT, both similarities and differences were evident. In conjunction with the responses given by the BA, the OT also identified availability of items as a precursor to the behaviour and discussed the lack of clear expectations presented to each participant. Similarly to the BA the OT did focus on distressful situations as events frequently leading up to stereotypic behaviour, however the mechanisms behind such precursors seemed to be different for each professional. For the BA distressful situations were related directly to aspects of the environment that could be easily observed or heard (i.e., child crying, excess noise, crowded space). The OT was much more direct in linking stereotypic behaviour to more perceived stressful events determined through interpretation of the participants general affect. The OT paid particular attention to the participant’s facial gestures, body movement, and vocalizations in order to determine the participant’s internal disposition. For example, when the OT described a situation where a participant appeared distressed around a particular task, he/she provided the following interpretation:

Moaning perceived as due to anxiety about what was being asked of her, either fear response to balance work or unsure how to start/complete task due to motor planning challenges. Child did not seem to have any pleasurable affect towards climbing activities she was being pressured to complete (saw horse), contributing to her moaning (viewed as her coping method) (OT Observation Report, p. 3).

As demonstrated in the previous statement, the OT attended to different aspects of behaviour than the BA when determining participant distress in specific situations. He/she focused more on physical characteristics of the individual rather than external variables within the individual's environment.

Both professionals also discussed availability of items as an important antecedent to stereotypic behaviour. Although both felt that the participants were provided access to such items much too often, how such items should be used differed considerably between the two professionals. The BA discussed that such items should be used as reinforcement making appropriate behaviour contingent on access to such items. The OT however, felt that items should only be provided when an individual is feeling stressed or anxious. Even though the antecedent was identified to be the same the overall focus surrounding this antecedent was very different for each professional.

Another similarity observed between the two professionals was discussion around the expectations of the setting. Both felt that expectations were not clear and that a lack of communication around such expectations could possibly be related to stereotypic behaviour exhibited by the participants. Both the BA and the OT commented on the level of participants' engagement with activities and with the facilitators. However the way each interpreted problems around how expectations were communicated and delivered was very different. The BA's

interpretation of the environment was that not enough structure existed. Expectations were not clearly laid out, giving participants too much time to engage in stereotypic behaviours. This can be demonstrated in the following comment on a particular participant:

Client often had access to an item that could be dangled. Therefore long periods of time were spent engaging in “dangling” behaviour to the exclusion of other potential behaviours (e.g., did not play on the equipment or with toys) (BA Observation Report, p. 1).

When the OT discussed issues with activities in the environment, he/she was more focused on overall meaningfulness of the activities. He/she felt that the lack of engagement (leading to stereotypic behaviour) was due to too much structure, and felt that choice and consideration of participants’ needs should be considered in presentation of activities. Overall the OT described a lack of motivation to engage in activities due to excessive rigidity imposed on participants.

Another difference found between the OT’s and the BA’s responses was around the role of the facilitators as antecedents for stereotypic behaviour. The OT placed much more emphasis on the facilitators developing a connection with the participants. The OT felt that this rapport did not exist with many of the participants, stating “my impressions were such that the child appeared bored, did not see the activities as meaningful and had minimal connection with his leader” (OT Observation Report, p. 1). The lack of connection between the participants and the facilitators was a frequent antecedent or precursor identified by the OT throughout the interview and observation report, where the BA focused mostly on the curriculum itself, not really how the students were carrying it out.

Overall, when looking at each professional’s descriptions of antecedents the main differences found were in the types of antecedents identified. For the OT antecedents were more

internal, in terms of stress, anxiety, and distress. The BA focused more on structure and creating a specific curriculum, while the OT focused on allowing the children to choose their activities and following the lead of the participants. This was a considerable difference in antecedent approach to decreasing levels of stereotypic behaviour.

Expert Panel

An expert panel was consulted, which served the third phase of the study. One expert from each discipline was contacted and provided a summary of the respective professional's interviews along with their observations of stereotypic behaviour. Both experts were asked to reflect on the responses of the professional and discuss how interpretations corresponded with the standards of each respective discipline. According to each expert, it was found that both the BA's and the OT's responses were well in line with the standards of the discipline with only minimal digressions or additions suggested.

Behaviour Analyst. The expert in behaviour analysis reported that the responses and observations of the BA directly corresponded with the standards outlined by the discipline. He/she commented on how the BA interpreted and approached stereotypic behaviour specifically, stating that the BA was consistent with the principles and processes outlined in applied behaviour analysis. Discussion around the importance of treating the behaviour, competing stimuli, and unclear expectations were found to be clearly in line with the expectations of the expert. However, the expert commented on how he/she would also have asked more questions around play skills specifically. Regarding the nature of work with other professionals he/she disclosed that the BAs comments were congruent with his/her view of this process, however he/she saw more value in finding ways to blend the strategies of divergent professionals.

Occupational Therapist. The occupational therapy expert provided some important insights surrounding the observations and perception of the occupational therapist. Overall, he/she felt that the interpretation in which the OT provided in terms of stereotypic behaviour was in line with the values and standards for occupational therapists. The only aspect of the OT's summary however that was not typical was her discussion around relationship development intervention and the floor time approach. The OT expert clarified that this was specific to this particular OT and the approach was not common across occupational therapists. Interpretations around choice making, meaningful participation, and sensory processing were all typical focal points identified by the OT expert. The expert also agreed with the approaches discussed by the OT in terms of his/her interaction with other disciplines. He/she discussed that direct interaction between occupational therapists and other disciplines does not typically occur beyond what the OT described.

The information provided by each professional allowed for a deep analysis of similarities and differences in approach, interpretation, and antecedent identification, surrounding stereotypic behaviour in four children with autism. The interviews also provided insight into each professional's experience with interdisciplinary practice, along with a direct reflection of the other discipline. Description of findings, through recursive analysis of this data, allowed for further investigation of literature driven and idiomatic typologies, which will be discussed in the following section.

Chapter 5

Discussion

Stereotypic behaviour has been highly investigated throughout the literature. Research surrounding the implications, assessment and treatment of stereotypy not only demonstrates the importance of studying this behaviour in individuals with autism, but it also helps to identify the gaps in knowledge surrounding the overall understanding of such behaviour. As previously discussed, limitations exist when approaching stereotypic behaviour strictly from an ABA orientation. Within the current study, such limitations have been considered through an exploration of stereotypic behaviour and interdisciplinary practice. The following discussion will highlight the previously described results and how they correspond with existing literature surrounding: a) general knowledge of stereotypic behaviour, b) stereotypic behaviour from an ABA framework, c) antecedent identification, d) and interdisciplinary practice. Additionally, findings specific to the responses of the professionals will be discussed in terms of their implications for future research on stereotypic behaviour and collaboration. Table 2 highlights the different areas that will be focused on and discussed.

Stereotypic Behaviour

When looking at research investigating stereotypic behaviour, it was found that various theories existed surrounding why such behaviour occurred. Within Turner's (1999) review of stereotypic behaviour, she outlined two specific theories: one based on behavioural principles and another based on sensory or biological processes related to stress and anxiety. The interpretations provided by the BA and the OT corresponded directly with those descriptions outlined by Turner. The BA primarily discussed consequences surrounding stereotypic behaviour, focusing on replacement behaviour and social versus automatic contingencies. For

Table 2.

<p><u>Discussion Outline</u></p> <p><u>Corresponding Literature</u></p> <ul style="list-style-type: none"> • Stereotypic Behaviour • Stereotypy and ABA • Antecedent Identification • Interdisciplinary Practice Antecedent Identification <p><u>Specific Findings</u></p> <ul style="list-style-type: none"> • Consultation vs. Collaboration • Function vs. Function • Treatment-Focused vs. Client-Focused <p><u>Review of Research Questions</u></p> <ul style="list-style-type: none"> • Stereotypic behaviour and collaboration from the perspective of a behaviour analyst • Stereotypic behaviour and collaboration from the perspective of an occupational therapist • Similarities and differences between the two perspectives • Antecedent events typically identified by each professional • How findings inform research on collaboration and integrative assessment approaches <p><u>Strengths and Limitations</u></p> <ul style="list-style-type: none"> • Multiple sources of data and checks for accuracy • Wide range of information obtained from the professional's observations and interviews • Exploratory nature of the study • Small Sample • Artificiality of direct comparisons • Researcher's inexperience conducting qualitative research <p><u>Recommendations for Future Research</u></p> <ul style="list-style-type: none"> • Benefits of adding an occupational therapist perspective to ABA • The typical dynamics of occupational therapists and behaviour analysts • Barriers surrounding an interdisciplinary approach to stereotypic behaviour
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example the BA asked questions around identifying, “items that compete... can you identify items that not only compete but also provide similar forms of reinforcement” (BA Interview 1, p. 1), where the OT was more concerned with stress levels and anxiety, as they related to engagement in stereotypic behaviour: “I look what’s happening in the environment is the child feeling stressed in some way is there something going on that is stressing the child, so look at some of the sensory kind of components” (OT Interview 1, p. 1). He/she discussed stereotypic behaviour as a coping mechanism to help the individual remain calm and focused. The two interpretations provided by each professional compared directly to the two specific approaches outlined by Turner, representing both operant theories and theories surrounding more biological or sensory processes.

Turner (1999) also discussed the limitations surrounding each theory, explaining that consistency and confirmation for one explanation has not yet been found throughout the literature. She discussed the possibility of different explanations surrounding the behaviour occurring simultaneously or at different times for different individuals. According to this hypothesis, it seems possible that an approach that combines professionals of both orientations (i.e., occupational therapy and behaviour analysis) could help tease apart the mechanisms involved in stereotypic behaviour. As explained by Turner, due to the heterogeneity of stereotypic behaviour in individuals with autism, it is plausible that explanations of and approaches to such behaviour may also need to be heterogeneous, providing further support for the idea that approaches used by an occupational therapist could complement behaviour analysis by explaining aspects that cannot be accessed by the discipline. This idea will be discussed further when looking at the limitations of behavioural assessment identified by the BA.

Stereotypy in ABA

Overall the approach the BA discussed toward assessing stereotypic behaviour reflected the general principles and procedures of ABA, as described throughout the literature (Cooper, Heron, & Heward, 2007). Also corresponding with existing ABA literature was the BA's discussion around the difficulties of identifying what type of "feedback" was being obtained by stereotypic behaviour when such behaviour is automatically maintained, explaining that "it can be very hard to isolate what sort of feedback the person may be getting...what's the actual maintaining aspects" (BA Interview 1, p. 2). This was not surprising, as it was found throughout the literature that such response-reinforcer contingencies related to direct sensory modalities of behaviour were often difficult to identify (Tang, Patterson, & Kennedy 2003; Vollmer, Marcus, & LeBlanc, 1994). When attempting to discern the function of such behaviour the BA explained that stereotypic behaviour "usually does take more effort than a lot of other behaviours" (BA Interview 1 p. 3). He/she further explained that "based on a lot of the case load that I have worked with it is not uncommon for there to be multiple elements or multiple functions in the sense that you will see it across conditions" (BA Interview 1, p. 3). This is analogous to the findings of Tang, Patterson, and Kennedy (2003), who discussed the frequency of inconclusive functional analyses when assessing stereotypic behaviour.

In addition to identifying function and specific sensory modalities associated with stereotypic behaviour, the BA also discussed throughout both interviews the difficulties around finding competing stimuli to replace that obtained by stereotypic behaviour. He/she explained that:

...what also can be difficult as well is there are times when you are able to identify something that competes but if you try to make it too contingent the child or the client

has a situation where you made have a something that competes or may even provide better but it is tied to some sort of expectation... where self administration is usually free access. So there always that balance especially is you are trying to be contingent in terms of not trying to kill the value of the reinforcer that you do have (BA Interview 1, p. 2).

This has been identified throughout the literature as a challenging aspect of such behaviour. For example, a study by Vollmer and colleagues (1994) found mixed results when attempting to provide competing reinforcement to an individual engaging in stereotypic hand mouthing behaviour. They found that punishment procedures (i.e., response blocking) also had to be introduced in order to decrease behaviour to clinically significant levels. Although the BA did not discuss punishment techniques, he/she did express the concern that stimuli reinforcing enough to compete with that produced by stereotypic behaviour were often not easy to determine.

The limitations expressed by the BA, which were also confirmed throughout the literature, suggest that more information regarding the variables surrounding stereotypic behaviour is needed. As discussed by Vollmer and colleagues (1994), a possible reason behind the presence of behaviour in multiple conditions during a functional analysis was that the antecedents triggering the behaviour were not accurately identified. As previously discussed, accurately identifying antecedent variables is not always an easy task. Existing literature suggests that the conditions typically provided within a functional analysis are not always broad enough to capture relevant triggers in the environment, specifically around behaviour that is automatically maintained (Carr, Yarbrough, & Langdon, 1997; Fisher, Adelinis, Thompson, Worsdell, & Zarcone, 1998; Van Camp, Lerman, Kelley, Roane, Contrucci, & Vorndran, 2000). Although procedures that helped to gain access to antecedent variables were suggested within the

literature (Carr, Yarbrough, & Langdon, 1997; Gardner, Cole, Davidson, & Karan, 1986), the accuracy and feasibility of such methods have been questioned (Cooper, Herson, & Heward, 2007; Smith & Iwata, 1997). Therefore it is evident that more information is needed around how to accurately capture idiosyncratic antecedents.

The question still remains, however, whether occupational therapy specifically can provide the additional information that could help better inform behavioural assessments, especially in the identification of antecedents. Although this was not empirically investigated within this particular study, a comparison of the antecedents identified by each professional lays the groundwork for further empirical examinations regarding the benefits of combining these two approaches.

Antecedent Identification

In the current study, antecedents were investigated through each professional's interpretations and observations of stereotypic behaviour. The antecedents that were highlighted corresponded with the general focus of each discipline as described in the literature. The BA focused primarily on directly observable characteristics and refrained from making inferences or assumptions regarding child mood or internal states (see Smith & Iwata, 1997). Conversely, the OT's focus, as discussed by Case-Smith and Arbesman (2008), was mainly around sensory processing issues that were causing distress, inability to transition to different activities, and lack of engagement in meaningful play. The OT frequently discussed distress around transitions and lack of engagement in activities as primary precursors to stereotypic behaviour. Although the approach to antecedents was very different between the two professionals, together they may be able to provide some valuable insights surrounding variables that may be influencing stereotypic behaviour.

The difference found between the two professionals provides support for the proposition that occupational therapy could be in the position to provide novel antecedent accounts in the assessment of stereotypic behaviour. As demonstrated by Gardner, Cole, Davidson, and Karan (1986), the expansion of setting events to include a more global examination of antecedents, including factors such as stress and sensory sensitivities, could be a crucial step in informing behavioural assessments such as ABC assessments and functional analysis. Reflecting back to the data provided by each professional, looking specifically at antecedents, the OT provided a different view than the BA, paying particular attention to different aspects such as body movement, facial gestures, and the nature of vocalizations in order to interpret general affect and disposition of the participant. Although the OT inferred such aspects, inferences were informed by the training and expertise he/she possessed. Therefore, expanded interpretations would be more informed and validated by the knowledge of this discipline.

Although global assessments of antecedents have been long suggested throughout the literature (Wahlen & Fox 1981), it has not been demonstrated how such global evaluations can be informed in order to narrow down the many variables that exist in an individual's environment, as well as paint an accurate picture of setting events that could be useful when conducting behavioural assessments. The results of this study suggest that OTs may in fact have novel information to add to behavioural assessment and practice, however before such interactions can be investigated, it is important to look at the current interaction of these two professions and what the facilitators and barriers may be to such integration and collaboration.

Interdisciplinary Practice

Throughout both interviews the OT and the BA discussed specific collaborative models within which they worked. These models were compared to the definitions of multi-disciplinary,

interdisciplinary, and trans-disciplinary practice provided by Collin (2009). Both the BA and the OT described a consultation model in explaining their interactions with disciplines outside their agencies. Such consultations consisted of another professional coming in and observing the client and providing recommendations based on observations. Very little interaction between the home agency and the consultant was reported. Each professional observed the child separately and recommendations seemed to stand independently of the client's primary program goals. This is demonstrated by the following comment by the BA:

...the... some of the stereotypy is being a way of looking at their body in space, but I mean ultimately that to me, it's a side thing and I don't know if...I wouldn't see that perspective as being too difficult to...to sort of incorporate in the sense of it's not going against anything I would say... (BA Interview 2, p. 4).

The description of the OT's recommendations as a "side thing" revealed that the BA perceived that such recommendations did not directly relate to his/her goals and priorities. The OT described a similar model when consulting to other agencies, as well as when other professionals consulted to his/her agency. This approach did not directly fit into the collaboration models described by Collin, however it is most closely related to her description of multi-disciplinary practice, as the two professionals are working with the same child but not necessarily on the same issue or concern and actual exchange of theoretical perspectives was not apparent.

The OT also described a trans-disciplinary model that she frequently worked under when working with professionals within his/her agency. Collin (2009) described trans-disciplinary collaboration as disciplines working from the same philosophy and interchanging theories and approaches to "address a common problem" (p. 103). The OT discussed this model when

describing his/her interactions with speech-language pathologists and physical therapists within his/her agency. He/she indicated that his/her agency had:

...made a decision to use a team approach umm...and were very trans disciplinary as well...we don't tend to just wear our own hat...we umm learn through each other in working with each other and we are a consistent team all of the time. (OT Interview 1, p. 5).

The OT's description of "wear[ing]" different "hats" (OT Interview 1, p. 5) corresponded directly to Collin's definition, as the interchange of theoretical knowledge was reported to occur frequently between the OT and his/her colleagues.

Although the professionals described multi-disciplinary and trans-disciplinary models of assessment and treatment, interdisciplinary approaches as defined by Collin (2009) were absent within each professionals' descriptions of collaboration. A framework in which professionals worked together with the same client, "analyzing, synthesizing, and harmonizing links between them into a coordinated and coherent whole" (Collin, 2009 p. 103), was not demonstrated in the current practice of either the BA or the OT. The reasons behind the lack of interdisciplinary models as well as the possible barriers to such interactions were investigated further in phase two of the study.

Essential Components and Barriers to Interdisciplinary Practice

Interdisciplinary collaboration is a highly studied phenomenon throughout the literature. Studies have presented its usefulness in practice (Hochstadt & Harwicke, 1985; Lemieux-Charles & McGuire, 2006; Pfeiffer & Naglieri, 1983) as well as the barriers that also exist when attempting to integrate two or more disciplines (Belanger & Rodriguez, 2008; Mellin & Winton, 2003). The current study provided insight into the perceptions of this approach between two

particular professionals, which was an essential step prior to investigating the idea of an interdisciplinary approach to understanding stereotypic behaviour. When asked specifically about interdisciplinary approaches to assessment, both the BA and the OT identified specific facilitators and barriers to such a collaborative model.

Specific factors that the OT and the BA identified to be important in the facilitation of collaboration were the availability of resources and time spent developing working relationship. For example, the OT discussed availability of resources in terms of the infrequent visits from the behaviour analyst in his/her area. He/she discussed that increased time to interact with the BA would help facilitate more collaboration. Additionally, the BA discussed the idea of strong working relationships as an essential factor when collaborating with other disciplines stating the importance of “rapport building...there’s a...there’s a some professionals that I have worked with on and off...various different ways for years now...so we kind of know each other’s umm perspectives...” (BA Interview 2, p. 7). Such factors corresponded directly with literature evaluating factors that facilitated and interfered with interdisciplinary approaches in primary healthcare settings (Belanger & Rodriguez, 2008). In addition, both professionals discussed specific barriers when attempting to collaborate with other disciplines.

The main barrier discussed by the professionals in this study was the potential disagreements that can occur when working with someone from a different theoretical framework. This was also found to be a common barrier within the literature (Belanger & Rodriguez, 2008). An additional barrier identified in the current study was the system within which professionals worked. Both the OT and the BA discussed that the degree of collaboration depended on the values and priorities of the agency. For example the BA stated that “based on my experience though, [collaboration] is more tied to the design of the program...funding

sources” (BA Interview 1, p. 3). This suggests that interdisciplinary collaboration, for these particular professionals, could be more of a systemic issue rather than an issue between the professionals themselves. This idea corresponded directly with the study by Mellin and Winton (2003) who also found work environment to be a primary factor that contributed to collaboration between professionals.

However in addition to agency specific factors, the general attitudes toward collaboration were also mixed between the OT and the BA. It was highlighted throughout the second interview that interdisciplinary approaches, specifically around stereotypic behaviour, were not always necessary. Although both professionals felt that there was some value in the others perspective, both expressed that the others report did not provide any new information that would assist in their own assessments. Similarly, attitude of professionals and professional background were common barriers discussed by Mellin and Winton (2003). This finding suggests such mixed feelings regarding collaboration with other disciplines may be a contributing factor around why an interdisciplinary approach does not exist between these two professionals currently. Such attitudes could be barriers for future efforts to collaborate.

In addition to examining corresponding areas of the literature, more specific findings were identified that are indigenous to the particular experiences of the professionals described in this study. Areas that were found to be most fascinating were those that presented interesting contradictions or inconsistencies, including a) consultation vs. collaboration, b) function vs. function, and c) treatment-centered vs. child-centered. It is important to examine these areas further, as it allows for a more in-depth analysis of factors that may need to be considered in future research.

Consultation vs. Collaboration

The term *consultation* was mentioned frequently throughout the results of this study. Both the OT and the BA referred to consults when discussing their interactions with other disciplines. This was an interesting way to describe the collaborative process as such consults were under the complete discretion of the BA and the OT in terms of whether or not they were needed and whether or not recommendations would be implemented. This was demonstrated by the BA: "... it can be easy from my perspective because a lot of time they are consulting to my programs...so ultimately I get to move forward with what seems to be the most feasible..." (BA Interview 1, p. 4). The OT also exhibited a similar attitude, which can be interpreted through her discussion of behavioural consultation, stating that such consultation "rarely happens and that's if there is perhaps some self-injurious behaviour or umm... ideas that the child has a real tough time with umm... a certain issue... I... very rarely have I had to" (OT Interview 1, p. 3). Both comments indicated the authority of the OT and the BA when it comes to decisions around external consultation.

Although this model was previously compared to a multi-disciplinary approach (Collin, 2009), it is unclear whether such a model, as described by these two professionals, is collaborative at all. A defining characteristic of collaboration is *working together* (Dictionary.com), however neither professional discussed actually working together with consultants to make major decisions. In fact the BA described this as a "quick in and out" process that resulted in minimal time for discussion or exchange of ideas (BA Interview 2 p. 6). From the discussions of both professionals it seems that perhaps consults are called upon for specific issues that maybe fall outside the realm of the goals of each professional. These side issues are recognized as problems that cannot be solved by the professionals themselves

therefore brief consultation is sought. However, the professionals are not interacting together on *the same* goals or objectives. Figure 3 provides a visual representation of this proposed dynamic.

This discrepancy, between collaboration and consultation, is an area that could be investigated further, especially in future research looking at dynamics between occupational therapists and behaviour analysts. It would be imperative to identify the nature of such consultations and determine what level of actual collaboration exists within such interactions. The perception of both the consultant and the professional consulted should be explored in terms of the degree to which recommendations are considered and theoretical perspectives communicated.

Function vs. Function

Another important finding that came out of this study was the consistent pattern of each professional implying completely different meaning to the same words and concepts. This occurred throughout discussions on general interpretations of stereotypic behaviour, interpretations of participant specific behaviour, as well as within the professional's direct comparison to the partner discipline.

The first example of this phenomenon is the use of the word *function*. Both the OT and the BA frequently described the importance of function in the assessment of stereotypic behaviour. When the BA discussed function he/she discussed it in terms of functional properties, which referred to the reinforcing aspects of behaviour (i.e., what the individual was getting out of engaging in the behaviour). Conversely, the OT discussed function in terms of the ability to engage in everyday activities and interactions with others. When the OT referred to the functioning of an individual, he/she was referring to the level in which they were able to engage meaningful interactions with others, perform life skills, and participate in productive and age

appropriate activities. The definition of function according to each professional was deeply ingrained in the rhetoric of his or her respective discipline. Although this is a very specific example of such overlap in ambiguous verbiage, other more broad conceptual descriptions were also identified which were, on the surface very similar, however the intentions behind the respective discourse revealed very different meanings.

Another concept that was perceived much differently between the two professionals was the idea of items being *contingent*. Both the BA and the OT discussed this idea surrounding items the participants used to engage in stereotypic behaviour (e.g., ropes, balls, socks) and both commented that this was a similarity identified when reflecting on the others interpretation. However when looking at each professionals' discussions carefully, it is evident that what was meant by using items contingently differed between the two professionals. The BA discussed contingencies in terms of the items being used as reinforcement for other more appropriate behaviour, while the OT talked about contingency in terms of allowing stereotypic behaviour at specified times, particularly around periods of high stress or anxiety. Although both indicated that the availability of stereotypic behaviour needed to be dependant on specific events in the participants' environment, both professionals assumed they were referring to the same types of events and situations. Again, a difference in meaning behind the term *contingent* was inherent in the language of each professional's discipline.

Finally, sensory issues were also referred to very differently by each professional. Again, both referred to sensory processing and sensory stimuli in their description of possible variables related to stereotypic behaviour, however the influence of such variables was very different within the discussion of each professional. For the BA, sensory stimulation was primarily referred to as a consequence of stereotypy. He/she talked about sensory feedback the participant

may be getting from engaging in stereotypic behaviour. The OT talked about sensory stimuli as a precursor to stereotypic behaviour, discussing events in the environment that were causing stress, leading to stereotypy, indicating that such behaviour helped individuals “remain calm and organized” (OT Interview 2, p. 5). This again demonstrated how each professional discussed similar phenomena but implied very different meanings.

A major implication of such misconceptions is that the professionals themselves were so ingrained in their own discourse and disciplinary norms that they themselves did not appear to pick up on these differences. When asked to compare similarities and differences between interpretations of stereotypic behaviour, such differences in rhetoric were not identified. The respective discourse of each professional is an important area of further study, as these aspects alone can reveal information surrounding the priorities and values of the theoretical orientation and practice of a discipline (Patton, 1987). This finding is also important in the study of interdisciplinary practice as it suggests that a common language may not exist between professionals, which could be a possible barrier to effective collaboration.

Treatment-Centered vs. Child-Centered

The last major finding to come out of this specific study is the contrast between treatment-centered approaches and client-centered approaches between the two professionals. When looking at the different interpretations of stereotypic behaviour, a major contrast found between the BA and the OT was the different recommendations highlighted in response to the observations of all four participants. For the BA the emphasis was primarily on developing a curriculum with clearly thought out goals for each of the participants. He/she felt that a lack of curricular design that outlined specific expectations was a contributing factor to the high levels of stereotypic behaviour observed in each of the participants. In contrast to the BA's

recommendation for a more structured environment, the OT emphasized the importance of embedding choice in activities in order to ensure they were meaningful to the participants. Meaningfulness was a common factor that related to stereotypy, as described by the OT. He/she discussed how children would engage in less stereotypic behaviour if activities offered were more meaningful to them.

The contrast in approach toward stereotypic behaviour between the BA and the OT suggests that although the overall goals of the two professionals may be the same (i.e., reduction in stereotypic behaviour and participation in activities within the environment) they moved toward such goals in very different ways. The BA suggested a much more structured curriculum driven approach, more focused on specific goals for the participants, while the OT suggested a child-centered approach, emphasizing the participants taking the lead in deciding what should be considered meaningful to focus on and teach.

An implication of this finding is that although the goals of both professionals seemed to be very similar, it may be useful to further investigate the nature of the different directions each would take when addressing the same problem and achieving the same outcomes. Future studies should also look specifically at how taking such different paths impact the manner in which collaboration occurs between disciplines. According to the definition by Collin (2009), in order for two disciplines to be considered “interdisciplinary”, there needs to be a synthesis of ideas, not merely a shared goal or final outcome (p. 103). How such approaches could work together should also be examined in future research.

Although both approaches seemed to be incongruent with one another, the combination of both approaches may be beneficial when thinking about the best possible outcome for a client. When thinking of interdisciplinary practice as described by Collin (2009), it is important for

different ideas to be discussed and exchanged between the two professionals. Although the approaches of each professional in this particular comparison are very different, it does not necessarily mean they are incompatible with one another and that such an exchange cannot be achieved. For example, when looking at the recommendations of the OT, his/her focus is really on motivation and rapport building, which can be major factors to consider within behavioural work, especially when attempting to follow through with specific curricular objectives (Cooper, Heron, & Heward, 2007). Therefore such insights around motivating clients could be beneficial to behaviour analysts in their everyday practice. However as observed between the BA and OT in this study, different approaches and ideas did not particularly interest the members of these two professions. In fact both felt that the reports provided were very familiar and not very useful. This suggests that the current consultation model, in which clients are provided with multiple services in a very isolated manner, fails to allow professionals to recognize opportunities for collaboration in order to serve a client more effectively. A model that facilitates continuous exchange of ideas between professionals is needed in order for true collaboration through an interdisciplinary approach to be obtained. Figure 4 provides a visual diagram of this prospective model.

Research Questions

As can be recalled, the overall design and analysis of this exploration was directed by five particular questions: 1) How is stereotypic behaviour and collaboration interpreted from the perspective of a behaviour analyst? 2) How is stereotypic behaviour and collaboration interpreted from the perspective of an occupational therapist? 3) What are the similarities and differences between the two perspectives? 4) What antecedent events surrounding stereotypic behaviour are typically identified by each observation? 5) How may these findings inform research looking at

collaboration and integrative assessment approaches? The previously discussed results provide answers to such questions in which specific implications for future research and practice can be derived.

The first two research questions targeted the general interpretation of stereotypic behaviour from the perspective of both the OT and the BA. As can be recalled, the BA focused primarily on consequences, functional properties, and curricular design. Although this information is only representative of this particular behaviour analyst's interpretation, it provided a general understanding of some of the main concerns behaviour analysts may have when assessing stereotypic behaviour in individuals with autism. The OT's attention toward meaningful activities, functional participation, and child choice, again provided some indication of the possible areas, which an OT would perceive as important to focus on when assessing stereotypic behaviour. The description of these two particular viewpoints allowed for direct comparison of the similarities and differences between the two professionals.

Similarities and differences were investigated in order to identify areas in which these two disciplines overlap as well as any novel information provided by each professional regarding stereotypic behaviour in individuals with autism. It was found that they presented very different theoretical interpretations of stereotypy. The BA, again, concentrated on consequences of the behaviour and interpreting whether or not the behaviour was socially or automatically maintained. Conversely the OT discussed more internal processes such as stress and anxiety as triggers for such behaviour. He/she discussed stereotypy as a coping mechanism. Such information highlighted the different processes that may be involved in maintaining stereotypic behaviour in individuals with autism. By identifying how these two approaches contribute to the overall knowledge of stereotypy, it can possibly help to tease apart the different reasons behind

why individuals may be engaging in such behaviour.

As previously discussed, similarities were also found in terms of overall goals and outcomes when working with clients who engage in stereotypic behaviour, however each professional's focus and methods to achieve such goals were very different. These differences were highlighted further when directly comparing the professionals' observations of the same participants. These results indicated the different approaches that each professional could potentially bring to an interdisciplinary model, while still remaining focused on the same goals and outcomes for their clients.

Additionally, antecedents were of specific focus within this investigation. Any variable that was described to lead up to or occur prior to stereotypic behaviour was systematically extracted from the transcripts of both professionals and then directly compared. The differences in types of antecedents each professional identified was of particular interest. The OT discussed variables that were more related to internal processes and states within the individual and related such states to events in the environment. The BA however was much more concerned with observable events in the environment that were in direct relation to behaviour and its consequences. These results suggest that occupational therapists may be able to provide novel accounts of the same event, which could possibly help inform the assessments of behaviour analysts. Future studies could look specifically at how the addition of such information around internal variables would benefit ABA assessment and practice.

The direct comparisons of each discipline provided information around the usefulness of future studies looking at interdisciplinary approaches to stereotypic behaviour. The results of this study identified the current model of collaboration practiced by each discipline. A consultation model was identified by both professionals, which stimulated uncertainty regarding the degree of

actual collaboration that occurred between professionals and consultants. This also suggested that an interdisciplinary model of collaboration is not one that was regularly practiced by these specific disciplines.

Similarly when asked about possible collaboration between these specific types of services (i.e., occupational therapy and behaviour analysis), both professionals demonstrated hesitation around the usefulness of this model for the assessment of stereotypic behaviour. Additionally they identified specific barriers that they felt existed when attempts to collaborate at an interdisciplinary level are made. Both identified agency specific barriers (i.e., design of the program and availability of resources) as well as discipline specific challenges (i.e., differences in theoretical perspective leading to disagreements in approach). The results indicated that barriers to interdisciplinary approaches could exist at both systemic and professional levels. Such barriers may be suggestive of why an interdisciplinary approach is not used among these professionals currently and why mixed feelings exist around the use of this approach in the future. Despite such barriers, it is evident that such collaboration could be useful in the assessment of stereotypic behaviour not only when conceptualizing collaboration of the distinctive perspectives revealed in this study, but also through literature supporting interdisciplinary approaches in general. (Hochstadt & Harwicke, 1985; Mellin & Winton, 2003; Lemieux-Charles & McGuire, 2006; Pfeiffer & Naglieri, 1983). Therefore further investigation around how collaboration could be better facilitated between these two specific disciplines may be warranted. This interaction could be considered by looking at the direct interaction between these two professionals.

The overarching purpose of this study was to compare the perspectives of two particular professionals in order to inform future research not only on stereotypic behaviour, but also

around interdisciplinary dynamics between behaviour analysts and occupational therapist, two common service providers involved in the lives of individuals with autism. Such information was obtained through an investigation of: differences and similarities between the two approaches to stereotypic behaviour, the degree of collaboration with other disciplines in their everyday practice, as well as attitudes toward using an interdisciplinary approach to assess stereotypic behaviour. Antecedents were focused on specifically as possible factors that the occupational therapist may add to the interpretations of the behaviour analyst.

Strengths and Limitations

When reflecting on the design and results of this study many strengths and limitations were evident. Overall this study provided a deep description of the interpretations of two professionals, including many stages of analysis, which helped to confirm detected patterns and accuracy in responses. Perceptions were compared at four different levels (Interview 1, Observation Report, Interview 2, and Expert review), allowing for confirmation of within-case consistency regarding overlapping topics discussed across modalities. Recursive review of the data was also conducted in the formation of observations and conclusions around findings. Additionally, an expert panel was also consulted in order to confirm that responses from each professional typical of the views and opinions of each respective discipline. The experts were also able to verify the extent to which professionals were abiding by specific standards outlined by each discipline.

An additional strength of this study was the wide range of information obtained from the professionals' observations and interviews. Detailed descriptions of each professionals' perception of both stereotypic behaviour and interdisciplinary practice were obtained, allowing for comparisons of both topics simultaneously. As a result of such detailed descriptions, future

research will be better informed, if evaluation of an interdisciplinary approach to stereotypic behaviour is to be investigated. This study lays the groundwork for such studies by providing information around what an occupational therapist could possibly add to the interpretation of a behaviour analyst as well as the barriers that may exist around this approach (i.e., current collaborative practices, agency factors, and general attitudes).

Furthermore, the exploratory nature of this study was another strength that should be highlighted. In identifying the particular limitations of common approaches to stereotypic behaviour, the researcher introduced an innovative and creative approach that had not yet been considered in the assessment and treatment of this particular behaviour. Despite the lack of direct research to support this approach, the researcher made some valuable connections through the exploratory findings of this particular study, which merits further investigation of interdisciplinary practice as a valid method to approach and better understand a complex behaviour (i.e., stereotypy). The exploratory nature of this study opens up opportunities for further investigation of a new innovative approach.

In addition to the strengths identified within this investigation, specific limitations were also recognized. The first limitation that is important to note is the small sample size used to generate the reported results. Although the aim of this study was not to generalize across professionals, the study would have benefited from the additional data provided by a more robust sample. Additional professionals from each discipline would have provided more confirmation around consistency across professionals within the same discipline, specifically when conducting each within case analysis. The expert panel helped to compensate for this, as it examined the representativeness of professionals' reports according to the particular standards of each discipline. The fact that the sample was quite small was less of a concern, due to the extra layer

of confirmation provided by this phase of the study.

The second limitation identified through careful reflection of the current study was the artificiality of the direct comparisons of the OT's and BA's observations of the same clients. Due to time constraints and lack of resources, it was very difficult to obtain real time observations from both professionals where interpretations of the same clients and same instances of behaviour could be compared. Instead, each professional was asked to watch and report on the same footage of four children engaging in stereotypic behaviour. The footage lacked the depth and background information needed to fully interpret the factors surrounding stereotypic behaviour, resulting in professionals providing recommendations cautiously. Real time observations of actual clients would have more closely resembled the assessment process of each professional and lead to less uncertainty around recommendations. Unfortunately it was not possible in the current study to provide such opportunities. Additionally this study was not able to include an examination of direct interaction and discussion between the two professionals. Instead each professional was asked to reflect on the others written interpretation of the participants' footage. Although this interaction is somewhat contrived, it still provided a window into the general interpretations of the other discipline, provided by each professional. Future studies may want to provide opportunities for professionals to interact directly with one another in order to get a more accurate reflection of each discipline's interpretation of the other.

Possible response bias was another limitation of this study. The fact that each professional was aware that all responses were going to be reviewed by the respective professional and an expert reviewer could have impacted how they discussed their own practices. Deception in this case would have been unethical and could have led to displeasure once professionals found out that their responses were shared without their knowledge. Therefore full

disclosure of all procedures was provided to each professional.

Finally, another limitation that must be discussed is the researcher's inexperience in conducting qualitative research. As it was the researcher's first time using this methodology, the quality of data collection and analysis may be impacted by his/her lack of direct training and experience. This may be apparent in the ability of the researcher to conduct interviews and probe for additional information, as a more experienced researcher may be better at identifying such opportunities. Additionally, a more experienced researcher who is more familiar with specific techniques and software may have completed the analysis differently. The researcher was however able to consult the experts of various resources, including her thesis supervisor, who is well versed in qualitative methodology.

Recommendations for Future Research

Three main areas have been consistently highlighted throughout the current study as important directions for future research, focusing on both stereotypic behaviour and interdisciplinary approaches. These include, a) direct investigation of the benefits of adding an occupational therapy perspective to ABA; b) research looking deeper into the typical dynamics of occupational therapists and behaviour analysts; and c) investigation of the common barriers to collaboration surrounding an interdisciplinary approach to stereotypic behaviour.

As the current study was very much a preliminary investigation of an interdisciplinary approach toward stereotypic behaviour in individuals with autism, the next step would be to investigate this approach more quantifiably in terms of direct benefits to clients. A study designed to measure the impact of a collaborative approach on client engagement in stereotypic behaviour would help to establish whether occupational therapy can add to the current methodology of a behaviour analyst and vice versa. The potential impact of the suggested

approach has to be studied more directly before conclusions can be made around the benefits of these two disciplines working together.

The typical existing dynamic between behavioural analysts and occupational therapist could also be further investigated. This could be achieved through surveys of professionals from each discipline, asking questions around the perceptions, nature, and frequency of *consultation* with other professionals specifically. A larger scale study could not only reveal further information around the degree of collaboration that occurs within consultation models, but it also could reveal some of the possible implications around differences in discourse that were identified within the current study. Overall a more intensive investigation of how occupational therapists and behaviour analysts typically interact could provide information around the existing exchange of ideas and perspectives between these two disciplines.

Finally, the common barriers that could impact the implementation of an interdisciplinary approach should also be more closely examined. It was evident throughout the current study that the two professionals felt that such collaborative efforts were agency dependent and could be impeded by differences in theoretical perspectives. Other possible barriers that were determined included the different approaches presented by each professional, as well as the lack of common language used to describe clients and behaviour. It would be useful to further investigate how different approaches could be used congruently and how a common language could be established. Also, future studies could look specifically at systemic barriers (i.e., agency structure, funding/resources) as well as professional driven barriers (i.e., attitudes toward other professionals) as they relate to the feasibility and usefulness of an interdisciplinary approach to stereotypic behaviour.

Additionally, discipline specific barriers could also be looked at further, particularly examining overall scope of practice. It would be useful to look more closely at the standards of both disciplines to determine the possible limitations each professional has in terms of ability to address certain behaviours and the evidence supporting specific approaches. It is important to understand these limitations before recommendations for collaboration can be made as each discipline is responsible for following their own regulations and procedures. It would be essential to compare protocols that govern each discipline to determine if barriers at this level in fact exist, when it comes to interdisciplinary work surrounding specific behaviours and problems.

Conclusion

A major focus of the current study was to obtain information around how two particular professionals would work together on the complex issue of stereotypic behaviour in individuals with autism. Investigating interpretations of both stereotypic behaviour and interdisciplinary practice not only revealed the novel information produced by each discipline surrounding stereotypic behaviour, but it also evaluated how such professionals currently work together and identified their attitudes toward further collaboration. Due to the exploratory nature of this study, these findings are preliminary at best, in terms of contributing directly to research on stereotypic behaviour and collaboration. However, specific findings that have come out of this study provide some interesting areas of discussion and directions for future research.

References

- American Psychiatric Association. (2000) *Diagnostic and statistical manual of mental disorders*. (4th ed. Text revision). Arlington VA: Author.
- Belanger, E., & Rodriguez, C. (2008). More than the sum of its parts? A qualitative research synthesis on multidisciplinary primary care teams. *Journal of Interprofessional Care*, 22(6), 587-597.
- Bishop, S.L., Richler, J., Cain, A.C., & Lord, C. (2007). Predictors of perceived negative impact in mothers of children with autism spectrum disorder. *American Journal on Mental Retardation*, 112 (6), 450-461.
- Brown, T.G., Rodger, S., Brown, A., & Roevers, C (2005). A comparison of Canadian and Australian pediatric occupational therapists. *Occupational Therapy International*, 12(3), 137-161.
- Carr, E.G., Yarbrough, S.C., & Langdon, N.A. (1997). Effects of idiosyncratic stimulus variables on functional analysis outcomes. *Journal of Applied Behavior Analysis*, 30, 673-686.
- Case-Smith, J., & Arbesman, M. (2008). Evidence-based review of interventions for autism used in or of relevance to occupational therapy. *American Journal of Occupational Therapy*, 62, 416-429.
- Collin, A. (2009). Multidisciplinary, interdisciplinary, and transdisciplinary collaboration: Implications for vocational psychology. *International Journal of Education and Vocational Guidance*, 9, 101-110.
- Cooper, J.O., Heron, T.E., & Heward, W.L. (2007). *Applied Behavior Analysis*. 2nd Edition. Upper Saddle River, New Jersey: Pearson.
- Cunningham, A.B., & Schreibman, L. (2008). Stereotypy in autism: The importance of function.

Research in Autism Spectrum Disorders, 2, 469-479.

Dictionary (Online). Collaboration. Retrieved on May 13, 2010, from www.dictionary.com.

Durand, M.V., & Carr, E.G. (1987). Social influences on "self-stimulatory" behavior: Analysis and treatment application. *Journal of Applied Behavior Analysis*, 20, 119-132.

Fisher, W.W., Adelinis, J.D., Thompson, R.H., Worsdell, A.P., & Zarcone, J.R. (1998). Functional analysis and treatment of destructive behavior maintained by termination of "don't" (and symmetrical "do") requests. *Journal of Applied Behavior Analysis*, 31, 339-356.

Gardner, W.I., Cole, C.L., Davidson, D.P., & Karan, O.C. (1986). Reducing aggression in individuals with developmental disabilities: An expanded stimulus control, assessment, and intervention model. *Education and Training of the Mentally Retarded*, 21, 3-12.

Hall, S., Thorns, T., & Oliver, C. (2003). Structural and environmental characteristics of stereotyped behaviors. *American Journal on Mental Retardation*, 108(6), 391-402.

Harris, K., & Reid, D. (2005). The influence of virtual reality play on children's motivation. *The Canadian Journal of Occupational Therapy*, 72(1), 21-29.

Hochstadt, N.J. & Harwicke, N.J. (1985). How effective is the multi disciplinary approach? A follow up study. *Child Abuse and Neglect*, 9, 365-372.

Iwata, B.A., Pace, G.M., Dorsey, M.F., Zarcone, J.R., Vollmer, T.R., Smith, R.G et al. (1994). The functions of self-injurious behavior: An experimental-epidemiological analysis. *Journal of Applied Behavior Analysis*, 27, 215-240.

Joosten, A.V., Bundy, A.C., & Einfeld, S.L. (2009). Intrinsic and extrinsic motivation for stereotypic and repetitive behavior. *Journal of Autism and Developmental Disorders*, 39, 521-531.

- Kennedy, C.H., Meyer, K.A., Knowles, T., & Shukla, S. (2000). Analyzing the multiple functions of stereotypical behavior for students with autism: Implications for assessment and treatment. *Journal of Applied Behavior Analysis*, 33, 559-571.
- Koegel, R.L., & Covert, A. (1972). The relationship of self-stimulation to learning in autistic children. *Journal of Applied Behavior Analysis* 5, 381-387.
- Koegel, R.L., Firestone, P.B., Kramme, K.W., & Dunlap, G. (1974). Increasing spontaneous play by suppressing self stimulation in autistic children. *Journal of Applied Behavior Analysis*, 7 (4), 521-528
- Lancioni, G.E., Singh, N.N., O'Reilly, M.F., & Sigafoos, J. (2009). An overview of behavioral strategies for reducing hand related stereotypies of persons with severe to profound intellectual and multiple disabilities: 1995-2007. *Research in Developmental Disabilities*, 30, 20-43.
- Lemieux-Charels, L., & McGuire, W.L. (2006). What do we know about health care team effectiveness? A review of the literature. *Medical Care Research and Review*, 63(3), 263-300.
- Lerman, D.C., & Rapp, J.T. (2006). Antecedent Assessment and Intervention for Stereotypy. In J.K. Luiselli (Ed.), *Antecedent assessment & intervention* (pp. 73- 97). Baltimore, Maryland: Paul H. Brooks Publishing Co.
- Lewis, J. (2003). Design Issues. In J. Ritchie and J. Lewis (Ed.), *Qualitative Research Practice* (pp. 47- 76). Thousand Oaks CA: Sage Publications Ltd.
- Lovaas, O.I., Litrownik, A., & Mann, R. (1971). Response latencies to auditory stimulation in autistic children engaged in self-stimulatory behavior. *Behavior, Research and Therapy*, 9, 39-49.

- McLennan, J.D., Huculak, S., & Sheehan, D. (2008). Brief report: Pilot investigation of service receipt by young children with autistic spectrum disorder. *Journal of Autism and Developmental Disorders*, 38, 1192-1196.
- Mellin, E., & Winton, P.J. (2003). Interdisciplinary collaboration among early intervention faculty members. *Journal of Early Intervention*, 25, 173-188.
- O'Connell, A., & Vannan, K. (2008) Sleepwise: Addressing sleep disturbance in young children with developmental delay. *Australian Occupational Therapy Journal*, 55, 212-214.
- Patton, M.Q. (1987). *How to Use Qualitative Methods in Evaluation*. Newbury Park, CA: Sage Publications Inc.
- Pelios, L., Morren, J., Tesch, D., Axelrod, S. (1999). The impact of functional analysis methodology on treatment choice for self-injurious and aggressive behavior. *Journal of Applied Behavior Analysis*, 32, 185-195.
- Pfeiffer, S.I., & Naglieri, J.A. (1983). An investigation of multidisciplinary team decision making. *Journal of Learning Disabilities*, 16(10), 588-590.
- Rapp, J.T., Dozier, C.L., Carr, J.E., Patel, M.R., & Enloe, K.A. (2004). Functional analysis of erratic body movement maintained by visual stimulation. *Behavior Modification*, 28(1), 118-132.
- Rapp, J.T., & Vollmer, T.V. (2005). Stereotypy I: A review of behavioral assessment and treatment. *Research in Developmental Disabilities*, 26, 527-547.
- Ritchie, J., Spencer, L., & O'Connor, W. (2003). Carrying out Qualitative Analysis. In J. Ritchie and J. Lewis (Ed.), *Qualitative Research Practice* (pp. 219-262). Thousand Oaks CA: Sage Publications Ltd.
- Rossen, E.K., Bartlett, R., & Herrick, C. (2008). Interdisciplinary collaboration: The need to

- revisit. *Issues in Mental Health Nursing*, 29, 387-396.
- Schreibman, L. & Anderson, A. (2001). Focus on Integration: The future of the behavioural treatment of autism. *Behaviour Therapy*, 32, 619-632.
- Silva, L.M.T., Schalock, M., Ayres, R., Bunse, C., & Budden, S. (2009). Qigong massage treatment for sensory and self-regulation problems in young children with autism: A randomized control trial. *American Journal of Occupational Therapy*, 63, 423-432.
- Smith, R.G., & Iwata, B.A. (1997). Antecedent influences on behavior disorders. *Journal of Applied Behavior Analysis*, 30, 343-375.
- Smith, E.A., & Van Houten, R. (1996). A comparison of the characteristics of self-stimulatory behaviors in "normal" children and children with developmental delays. *Research in Developmental Disabilities*, 17 (4), 263-268.
- Swiezy, N., Stuart, M., & Korzekwa, P. (2008). Bridging for success in autism training and collaboration across medical, educational and community systems. *Child and Adolescent Psychiatric Clinics of North America*, 17, 907-922.
- Tang, J., Patterson, T.G., & Kennedy, C.H. (2003). Identifying specific sensory modalities maintaining stereotypy of students with multiple profound disabilities. *Research in Developmental Disabilities*, 24, 433-451.
- Turner, M. (1999). Annotation : Repetitive Behaviour in Autism : A Review of Psychological Research. *Journal of Child Psychology and Psychiatry*, 40 (6), 839-849.
- Van Camp, C.M., Lerman, D., Kelley, M.E., Roane, H.S., Contrucci, S.A., & Vorndran, C.M. (2000) Further Analysis of idiosyncratic antecedent influences during the assessment and treatment of problem behavior. *Journal of Applied Behavior Analysis*, 33, 207-221.

Wahler, R.G., & Fox, J.J. (1981). Setting events in ABA: Toward a conceptual and methodological expansion. *Journal of Applied Behavior Analysis*, 14, 327-338.

Figure Captions

Figure 1. Visual representation of within case comparison

Figure 2. Visual representation of across case comparison by category

Figure 3. Diagram of consultation model as described the OT and BA.

Figure 4. Diagram of a prospective model of interdisciplinary collaboration based on the definition by Collin (2009).

Figure 1

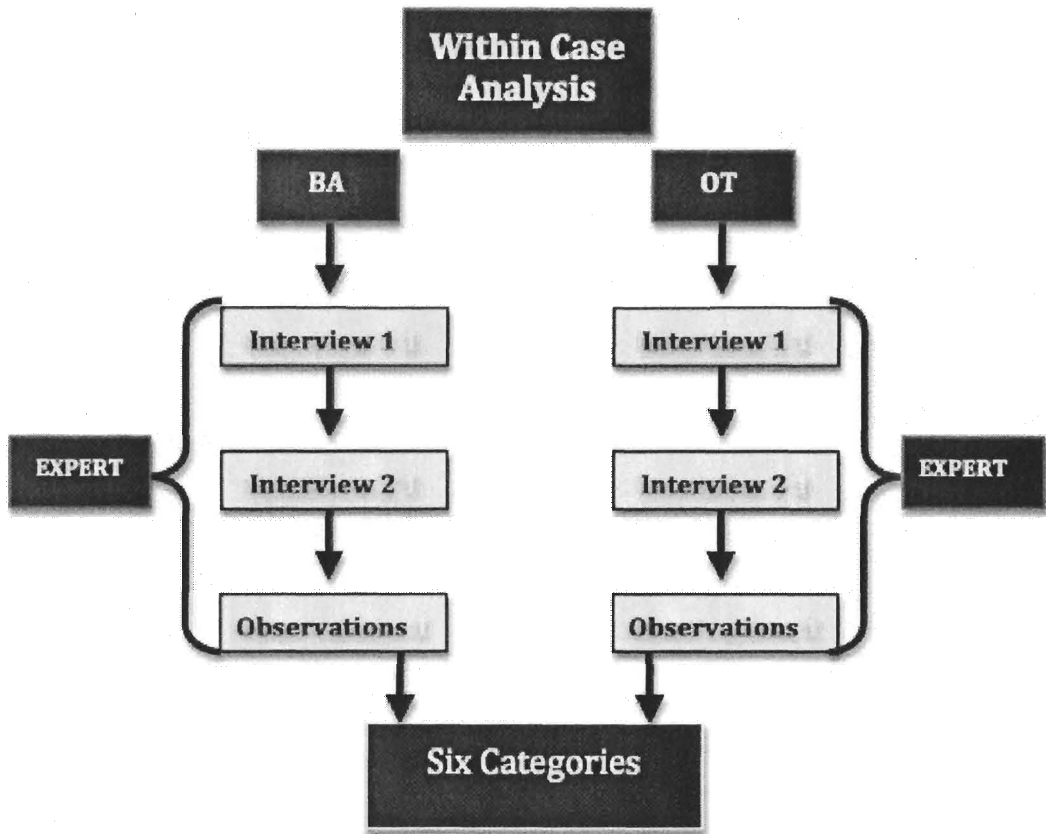


Figure 2

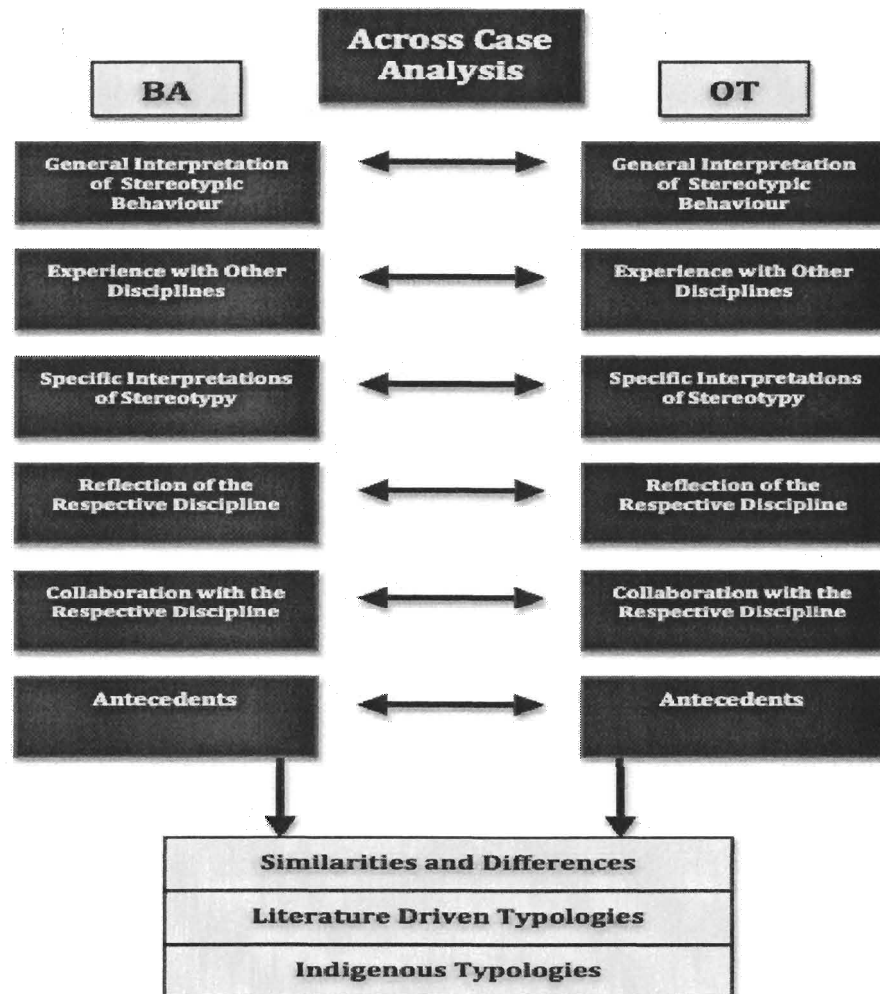


Figure 3

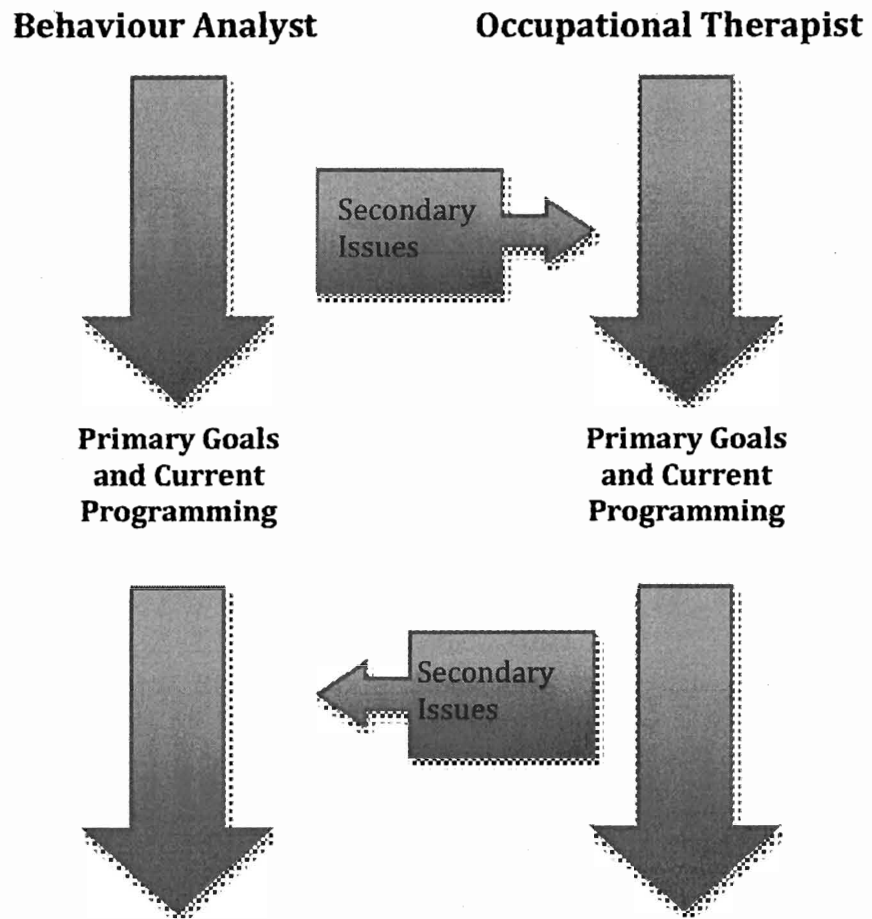
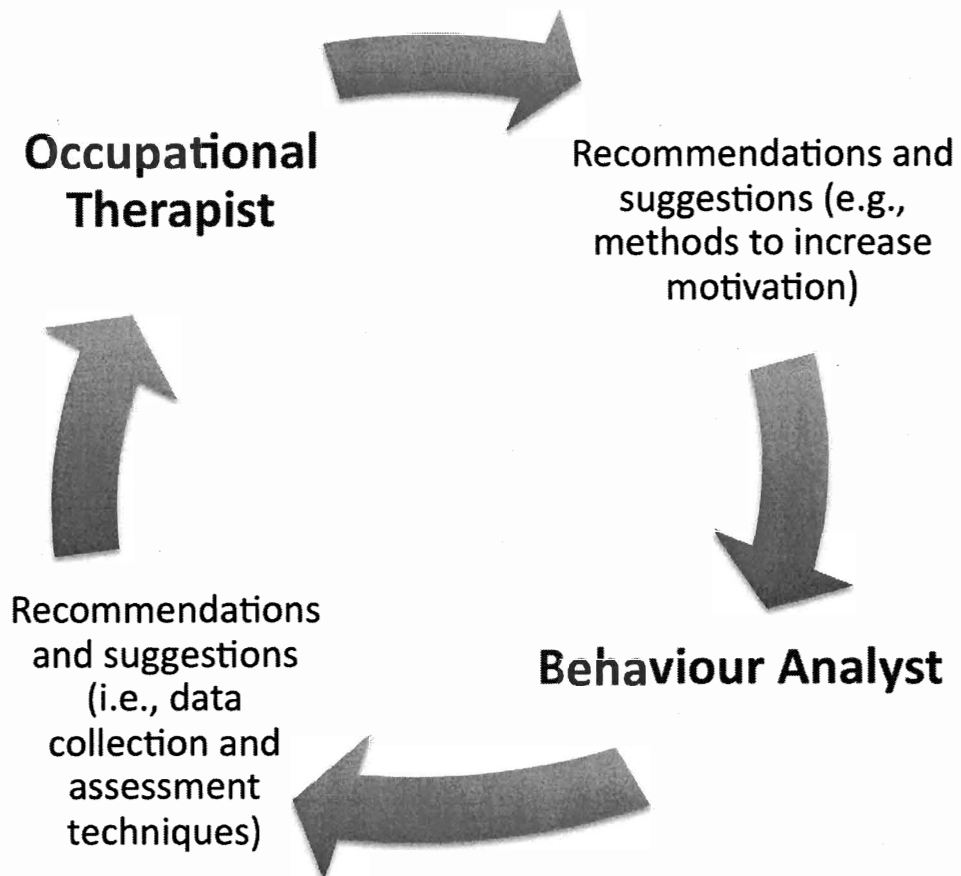


Figure 4



Appendix A

Letter of Invitation for Primary Caregivers

Dear Parents/Guardians,

I, Teryn Bruni, MA student, from the Department of Applied Disability Studies at Brock University, invite you to participate in a research project entitled, An exploration of antecedents surrounding repetitive behaviours in children with Autism: An interdisciplinary approach to assessment.

The purpose of this research project is to use two theoretically different approaches of assessment to look at repetitive behaviour in a child with autism and outline possible triggers in your child's environment. The first assessment method will be a Postural/Gestural assessment, which looks specifically at interpretation of child movement. The second assessment method will be an Applied Behaviour Analysis Functional Assessment, which focuses on functional relationships between behaviour and events in the environment. Children's repetitive behaviour will be video taped and assessed by experts in each field. Each assessment will be looked at together to get a better overall understanding of your child's behaviour. If you agree to participate, permission to review your child's movement profile will be requested as part of the assessment process.

The expected duration of study is approximately one year. However your child would only be video taped during the one or two week period during the movement camp. You, as the primary caregiver will also be asked to fill out an information form outlining additional information around your child's service provision, repetitive behaviour, and any health concerns. This questionnaire will be given before camp starts and you will have two weeks to complete the questions. Video sessions and report will be analyzed later in the year, after which a formal report will be written. Video recording will not continue beyond the two week period at the camp. Video recording will be as unobtrusive as possible, as to minimally impact your child's participation within the camp. Inclusion criteria includes a diagnosis of ASD and regular displays of repetitive behaviour. Based on these criteria three children will be randomly selected from a pool of interested participants.

This research should benefit you as you will have the option to receive the complete assessment material as well as a brief summary of the research findings. Participation in this project could help provide a better understanding of your child's repetitive behaviour. Although only three participants can be selected, all those who show interest will have the option to receive a summary of the research findings. You may indicate that you would like to receive a summary upon your initial contact with me or the director of the camp.

As previously mentioned, this research will take place at the ASD Summer Movement camp, held at Brock University. I have received full support for this research by the program director, Dr. Maureen Connolly. The research will not take place at any other site but those occupied by the movement camp. Your decision to participate or withdrawal from the study at any time will in no way affect your child's participation or standing within the movement camp.

If you are interested in participating in this research please contact me, Teryn Bruni, by phone or email (contact information below) or the ASD Movement camp director, Maureen Connolly (contact information below). If you have any pertinent questions about your rights or your child's rights as a research participant, please contact the Brock University Research Ethics Officer (905 688-5550 ext 3035, reb@brocku.ca)

If you have any questions or concerns, please feel free to contact me.

Thank you.

Teryn Bruni, BA

Principle Investigator – MA student in Applied Disability Studies
(905) 685-1916

tb08xy@brocku.ca

Maureen Connolly, Ph.D

Faculty Supervisor – Applied Health Sciences
(905) 688-5550 ext. 4707

mconnolly@brocku.ca

This study has been reviewed and received ethics clearance through Brock University's Research Ethics Board (file # 08-341)

Appendix B

Letter of Invitation for Professionals

Title of Study: An exploration of antecedents surrounding repetitive behaviours in children with Autism: An interdisciplinary approach to assessment

Principal Investigator: Teryn Bruni, MA Student, Department of Applied Disability Studies, Brock University

Faculty Supervisor: Maureen Connolly, Professor, Department of Applied Health Sciences, Brock University

I, Teryn Bruni, MA student, from the Department of Applied Disability Studies, Brock University, invite you to participate in a research project entitled An exploration of antecedents surrounding repetitive behaviours in children with Autism: An interdisciplinary approach to assessment.

The purpose of this research project is to use two theoretically different approaches of assessment to look at repetitive behaviour in a child with autism and outline possible triggers in that child's environment. The first assessment method will be a Postural/Gestural assessment, which looks specifically at interpretation of child movement. The second assessment method will be an Applied Behaviour Analysis Functional Assessment, which focuses on functional relationships of behaviour to events in the environment. Children's repetitive behaviour will be video taped and assessed by experts in each field. Each assessment will be looked at together to get a better overall understanding of the child's behaviour.

The expected duration of study is approximately one year. However the children will only be video taped during a two week period during a summer movement camp for children with ASD. The child's primary caregiver(s) will also be asked to fill out an information form outlining additional information around your child's service provision, repetitive behaviour, and any health concerns. This questionnaire will be given before camp begins. Video sessions and reports will be analyzed later in the year, after which a formal report will be written. Video recording will not continue beyond the two week period at the camp.

As an expert in the field, you are invited to participate in this project to assess child behaviour in one of the two disciplines. You will be asked to do an assessment of the video footage provided, focusing on a child's repetitive movement in four different conditions. You will also have the parent report to accompany the footage. By participating in this research, you could help provide parents with an assessment that could help them better understand their child's behaviour as well as offer additional information toward an interdisciplinary approach to service provision.

As previously mentioned, this research will take place at the ASD Summer Movement camp, held at Brock University. I have received full support for this research by the program director, Dr. Maureen Connolly. The research will not take place at any other site but those occupied by the movement camp.

If you are interested in participating in this research please contact me, Teryn Bruni, through phone or email (contact information below) or the ASD Movement camp director, Maureen Connolly (contact information below). If you have any pertinent questions about your rights or your child's rights as a research participant, please contact the Brock University Research Ethics Officer (905 688-5550 ext 3035, reb@brocku.ca)

If you have any questions or concerns, please feel free to contact me.

Thank you

Teryn Bruni
MA Student
(905) 685-1916
tb08xy@brocku.ca

Maureen Connolly, Ph.D
Professor
(905) 688-5550 ext. 4707
mconnolly@brocku.ca

This study has been reviewed and received ethics clearance through Brock University's Research Ethics Board (file # XXX)

Appendix C

Interview – Phase One

Script: (After introductions and informed consent) I would first like to thank you for participating in my thesis project. What I will do today is ask you a few questions regarding your disciplinary practice around assessment and observation of repetitive behaviour in children with autism.

Prior to the interview, I will ask you a few demographic questions and then after the interview I will provide you with four DVDs, each displaying children engaging in a variety of repetitive behaviors in a movement camp setting. Accompanying the videos is a summary of parent reports regarding their child's background and repetitive behaviour. Using this information, I would like you to provide an interpretation for each participant based on your general observations. I would like to ask you to complete this as soon as you can.

Do you have any questions so far?

Begin Questions

1. How long have you been at behaviour analyst/occupational therapist
2. What is your level of education?
3. From your experience as a Behaviour Analyst/Occupational therapist do you assess or treat many cases of motor/vocal type repetitive behaviour?
4. Describe the typical assessment process you go through or would go through to evaluate repetitive behaviour based on your disciplinary standards. What are the steps you take?
 - a. **Probe Question: If it is determined to be automatic what would the process be?**
5. Do you find this behaviour difficult to assess or treat? If, yes how so?
 - a. **Probe: You mentioned finding those items that would compete or identifying those items, do you find this can be difficult?**
 - b. **Probe: Do you ever find it difficult to identify the function in general of this type of behaviour?**

6. Do you have any experience conducting assessments in partnership with members of other disciplines? If yes, what disciplines?
 - a. **Probe: What is the nature of the consultations? What does that look like?**
7. What are the advantages and disadvantages of conducting collaborative or team assessments?
 - a. **Probe: Do you think collaborative approaches are common in ABA? Do you think it is lacking in this field?**
 - b. **Probe: so when those perspectives were not understood, as you mentioned previously...would that typically end the dialogue?**
8. **Do you have any other comments or anything you want to say regarding this area... in terms of repetitive behaviour or collaboration?**

Appendix D

Phase Two: Follow-up Reflection and Comment – Interview Questions

1. What were your general reflections regarding the observation of the video in terms of your perspective as a Behaviour Analyst/Occupational Therapist?
2. How would you characterize the events leading up to repetitive behaviour? Is this something you found important? If not, why? If so, how?
3. Were there aspects of the video you found particularly important?
4. What role did the parent report play in your overall observations?
5. What are your general recommendations based on the information you have?
6. After reading the summary of the Behaviour Analyst's/Occupational Therapist's observation, what are your thoughts on their perspective?
 - i. What did you find that was similar to your observations?
 - ii. What did you find that was different?
7. Did you learn anything new from reading the summary?
8. Do you think this information would be relevant or helpful when conducting your own assessments? Why or why not?
9. Do you think this is the type of information that you would typically obtain in practice through multi-disciplinary or interdisciplinary teams from an OT/BT?
10. Do you think more collaboration between OT's and BT's is needed? What would that collaboration look like?
11. Would any barriers exist that could prevent collaboration? If so, what would those barriers be? What are some ways you would suggest to overcome those barriers?
12. What do you think could be done by BT's/OT's to promote better collaboration with your field?
13. What could be done by your field to promote better collaboration with BT's/OT's?
14. Do you have any other comments/reflections regarding the BT/OT summary, the observations, or collaboration in general?

Thank you for participating!

Appendix E

Parent Report Questionnaire

This report will remain confidential and only be shared with those directly involved in the current study. All identifying information will be removed (i.e. first and last names) when information is documented or shared with next level informants. Please answer questions to the best of your knowledge. If you do not feel comfortable answering specific questions or you do not know the answer to a specific question you may skip that question. You may answer questions directly on this form and add attachments if more space is needed.

If you have any questions or concerns regarding any questions, you are welcome to contact Teryn Bruni at (905) 380-0481 at any time. Please return this form to Dr. Maureen Connolly or Teryn Bruni directly, or by mail to Teryn Bruni using the addressed and stamped envelope provided.

Demographic Information

Child Name: _____ Age: _____

SEX: M or F (circle one)

Primary Caregiver(s) (name and relationship):

Diagnosis:

Age when diagnosed: _____

Service Provision

1. Services Child Receives or Has Received in the Past (Check all that apply):

☐☐☐☐☐☐

Intensive Behavioural Intervention

Applied Behavior Analysis

Speech Therapy

Respite

Occupational Therapy

Sensory Integration Therapy

☐

Physical Therapy

☐

Movement Education

☐ Dietitian/Nutritionist
physician)

☐ Physician (e.g. neurologist, family

Other - Please describe any other services that were not listed that your child receives or has received:

2. Is your child receiving more than one service at a time or has your child received more than one at one time in the past? If so which ones were received at the same time?

3. Please describe from your experience the level of collaboration between services (if any) received by your child (i.e., communication between two different services to develop programming or treatment plans).

4. Are you satisfied overall with the services your child receives? Please explain why or why not.

General Information

1. Describe any physiological discomfort or pain that you feel is experience by your child (e.g., constipation, gastro-intestinal pain, muscle pain, etc.).

2. Does your child have trouble sleeping? If so please briefly describe his/her sleep patterns within a week long period.

3. Please describe your child's eating patterns, including any dietary interventions and feeding issues (if any).

4. Please describe any sensory issues (if any) that your child experiences regularly.

5. Does your child experience frequent anxiety? If so how do you know when your child is stressed or anxious?

6. Please describe from your experience what situation(s) produce stress or anxiety for your child.

7. What helps to ease stress or anxiety for your child?

[illegible]

Repetitive Behavior

1. What type(s) of repetitive behavior does your child engage in?

2. How often would you say your child engages in repetitive behaviour?

3. How do you feel when your child engages in repetitive behaviour?

[illegible]

4. Does your child engage in repetitive behaviour more often at specific times, places, or events? Please describe.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

5. Why do you think your child engages in repetitive behaviour?

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

6. Has your child's repetitive behaviour ever been formally assessed or treated? If so, please describe how it was assessed or treated.

[illegible]

7. If you answered “Yes” to the previous question, did you feel that the assessment or treatment method was successful? Why or why not?

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Additional Information

Please share any additional comments regarding your child's treatment, service provision, and/or repetitive behaviour.

Thank-you for your participation 😊

Appendix F

Primary Caregiver Informed Consent

Date:

Project Title: An Exploration of Antecedents Surrounding Stereotypic Behaviours in Children with Autism Through an Investigation of Interdisciplinary Practice

Principal Investigator: Teryn Bruni, MA Student

Faculty Supervisor: Maureen Connolly, Professor

Department of Applied Disability Studies

Department of Applied Health Sciences

Brock University

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(905) 685 –1916

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tb08xy@brocku.ca

mconnolly@brocku.ca

INVITATION

You are invited to participate in a study that involves research. The purpose of this study is to use two theoretically different approaches to look at repetitive behaviour in four children with autism and outline possible triggers in their environment. The first observation method will be through an occupational therapy approach, which looks specifically at child sensory-motor responses. The second observation method will be with a behaviour Analyst, who will focus on functional relationships of behaviour to events in the environment. Children's repetitive behaviour will be videotaped by the investigator and observed by next level informants who are experts in each field. The observations will be compared to get a better overall understanding of the child's behaviour and outline possible triggers in the child's environment.

WHAT'S INVOLVED

As a participant, you will be asked to give permission for your child to participate in the research project described above, review your child's previous year's movement profile(s), as well as fill out a parent report questionnaire. The questionnaire will request information regarding your child's service provision, repetitive behaviour and other health related items. You, and/or one other primary caregiver, will receive the parent report questionnaire from the principal investigator or the director of the movement camp. You may return the form in person or by mail (postage will be provided) two weeks after it is administered. All questions on the parent report are voluntary. The parent information form should take approximately one hour to complete.

Your child will be observed throughout the course of the ASD Movement Camp via audio/video recording. The researcher will not be at any time interacting with your child directly. Your child will be videotaped sporadically as he/she moves through activities at the camp and during transitional periods of the day (i.e., snack time, lunch, getting on the bus). Video sessions will be as unobtrusive as possible as not to interfere with your child's participation at the camp. Sessions will focus on repetitive behaviours and other behaviours and events that surround repetitive behaviour. Your child will be videotaped for approximately seven hours. The video tapes will then be edited for ease of viewing and sent to professionals trained in either Applied Behaviour Analysis or Occupational Therapy to observe the movements and repetitive behaviour of your child. Movement profiles and parent report questionnaire will also be observed by professionals. The professionals who observe the video footage will not at any time be contacting you directly or require any additional information aside from the parent report, movement profiles, and video footage. After movement camp your child will no longer be directly observed. Participation will take approximately two weeks over the duration of the camp.

POTENTIAL BENEFITS AND RISKS

Possible benefits of participation include the option to receive a summary of professional observations and findings, which could help provide a better understanding of your child's repetitive behaviour. This information may allow you to better predict and recognize this type of behaviour in your child. However, observations provided are not diagnostic or to be considered formal assessments in any way nor should they be used to direct treatment or programming. It can be used as a tool in addition to formal assessments but should not be used in isolation without the input of a professional psychologist. Although this study will provide valuable observations in regards to your child's behaviour,

there also may be risks associated with participation such as distress in the presence of the camera and researcher, however this risk is minimal. All video observations will be done as unobtrusively as possible, as not to interfere with the child's activity or participation in the movement program. Risk of using video media at the movement camp is especially low, as photography and video has been an ongoing component of the program since 2005. If any emotional distress or discomfort is detected due to observations, video recording sessions will end immediately. If distress continues throughout the duration of the study, you will be contacted and a recommendation to withdraw your child from the study will be made.

CONFIDENTIALITY

Due to the manner in which data will be collected, the identities of your child will not be anonymous. Only the investigator, the faculty supervisor, and the individuals editing and assessing the video will be viewing the footage and parent reports. Any person involved in the research will be required to sign a confidentiality agreement, stating that they will keep the identities of any child confidential. Your name and your child's name will not appear in any thesis or report resulting from this study. All names in final reports will be changed to protect confidentiality. Additionally, the parent reports will be retyped, removing any identifying information before being distributed to the professionals. Data collected during this study, including original questionnaires and audio/video footage will be stored in a locked cabinet and only directly accessed by the investigator or faculty supervisor. Data that is saved on computers will be protected by a secure server and password. Data will be kept for one year, after which all footage and raw data will be offered to you or alternately destroyed so no further use of the data will occur. Access to this data will be restricted to the investigator, the faculty supervisor, video editing technicians, and next level informants (assessors). At the end of the study any data saved on a computer or external disk will be deleted.

VOLUNTARY PARTICIPATION

Participation in this study is voluntary. If you wish, you may decline to answer any questions or participate in any component of the study. Further, you may decide to withdraw from this study at any time and may do so without any penalty or loss of benefits to which you are entitled. If your child becomes distressed at anytime due to observations, video sessions will be stopped and the director of the program will be notified immediately. If distress continues or videotaping interferes with your child's participation at the camp, the program director will be notified and withdrawal from the study will be recommended.

PUBLICATION OF RESULTS

Results of this study may be published in professional journals and presented at conferences. Feedback about this study will be available. Contact Teryn Bruni (investigator) or Maureen Connolly (faculty supervisor) via email or phone for feedback on the results of the study. Feedback will be available by summer 2010.

CONTACT INFORMATION AND ETHICS CLEARANCE

If you have any questions about this study or require further information, please contact the Principal Investigator or the Faculty Supervisor (where applicable) using the contact information provided above. This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University (file # 08-341). If you have any comments or concerns about your rights as a research participant, please contact the Research Ethics Office at (905) 688-5550 Ext. 3035, reb@brocku.ca.

Thank you for your assistance in this project. Please keep a copy of this form for your records.

CONSENT FORM

I agree to participate in this study described above. I have made this decision based on the information I have read in the Information-Consent Letter. I have had the opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

Name: _____

Signature: _____ Date: _____

Appendix G

Professional Informed Consent

Date: December 17, 2009

Project Title: An Exploration of Antecedents Surrounding Stereotypic Behaviours in Children with Autism Through an Investigation of Interdisciplinary Practice

Principal Investigator: Teryn Bruni, MA Student

Faculty Supervisor: Maureen Connolly, Professor

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INVITATION

You are invited to participate in a study that involves research. The purpose of this study is to examine multi-disciplinary assessment strategies by identifying the similarities and differences between Applied Behaviour Analysis (ABA) and Occupational Therapy (OT) when looking at repetitive behaviour in four children with autism. Child repetitive behaviour will be videotaped by the investigator and observed by next level informants who are experts in each field. The observations will be compared to get a better overall understanding of each discipline's interpretation of repetitive behaviour.

WHAT'S INVOLVED

As a participant, you will be asked to be one of the next level informants in the study. You will be asked to reflect on your training as a behaviour analyst/occupational therapist, partake in two short interviews, and provide observational data based on your disciplinary standards. Following the first short interview, you will receive twenty-five minute videos of four different children participating in a movement camp setting. You will be asked to write a short summary for each child, based on your observations and interpretations of their repetitive behaviour. You will be given two weeks to observe the videos. You will then be asked to participate in a secondary interview to reflect on your experience viewing the footage. Your observations and how they differ from other disciplines will be discussed. Finally all observations will be summarized and made anonymous and presented to an expert panel to verify your responses based on your disciplinary standards. The individuals within the expert panel will not receive any information that would reveal your identity or the identity of the organization you work for. A summary of your observations will be given to the parent of each child for their own personal information.

POTENTIAL BENEFITS AND RISKS

This research will potentially provide further information around characteristics of repetitive behaviour in children with autism. By examining the differences and similarities between disciplines, this study will provide the groundwork for further research surrounding possible challenges to interdisciplinary collaboration. Finally this study will investigate the need for a more unified provision of services for children with ASD and at the same time potentially gain a better understanding of complex repetitive behaviours. This study will explore many areas that could lead to future research in the realm of repetitive behaviour and service provision for children with ASD.

CONFIDENTIALITY

All information regarding your identity and the identity of the agency/organization you are affiliated with will remain confidential and anonymous. All information will be transcribed, removing all identifying information. Your name will not appear in any thesis or report resulting from this study. You will be required to sign a confidentiality agreement stating that you will keep the identities of all children confidential. Data collected during this study, including parent reports and audio/video footage should be stored in a locked cabinet or other safe location. This footage is not to be shared or discussed with colleagues or other professionals. The disks of the children are not to be copied or saved to other sources. All disks must be returned when observations are complete.

VOLUNTARY PARTICIPATION

Participation in this study is voluntary. If you wish, you may decline to answer any questions or participate in any component of the study. Further, you may decide to withdraw from this study at any time and may do so without any penalty or loss of benefits to which you are entitled.

PUBLICATION OF RESULTS

Results of this study may be published in professional journals and presented at conferences. Information about this study will be available. Contact Teryn Bruni (investigator) or Maureen Connolly (faculty supervisor) via email or phone for information on the results of the study. Feedback will be available by summer 2010.

CONTACT INFORMATION AND ETHICS CLEARANCE

If you have any questions about this study or require further information, please contact the Principal Investigator or the Faculty Supervisor (where applicable) using the contact information provided above. This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University (file # 08-341). If you have any comments or concerns about your rights as a research participant, please contact the Research Ethics Office at (905) 688-5550 Ext. 3035, reb@brocku.ca.

Thank you for your assistance in this project. Please keep a copy of this form for your records.

CONSENT FORM

I agree to participate in this study described above. I also agree to have any information that I provide to be shared anonymously with other professionals. I have made this decision based on the information I have read in the Information-Consent Letter. I have had the opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

Name: _____

Signature: _____ Date: _____

Appendix H

**General Statement of Confidentiality
Research Assistants and Transcribers**

Name of Research Assistant/Transcriber:

Title(s) of Research Study:

(Please print)

An important part of conducting research is having respect for privacy and confidentiality. In signing below, you are agreeing to respect the participant's right to privacy and that of the people and organizations that may be included in the information collected. Such information may include interviews, questionnaires, diaries, audiotapes, and videotapes. You are asked to respect people's right to confidentiality by not discussing the information collected in public, with friends or family members. The study and its participants are to be discussed only during research meetings with the Principal Investigators, Co-Investigators, Program Manager, and/or others identified by the Investigators.

In signing below, you are indicating that you understand the following:

- ☐ I understand the importance of providing anonymity (if relevant) and confidentiality to research participants.
- ☐ I understand that the research information may contain references to individuals or organizations in the community, other than the participant. I understand that this information is to be kept confidential.
- ☐ I understand that the information collected is not to be discussed or communicated outside of research meetings with the Principal Investigators, Co-Investigators or others specifically identified by the Investigators.
- ☐ When transcribing audio or videotapes (where applicable), I will be the only one to hear the tapes and I will store these tapes and transcripts in a secure location at all times.
- ☐ I understand that the data files (electronic and hard copy) are to be secured at all times (e.g., not left unattended) and returned to the Principal Investigator when the transcription process is complete.

In signing my name below, I agree to the above statements and promise to guarantee the anonymity (if relevant) and confidentiality of the research participants

Signature of Research Assistant/Transcriber: _____

Date: _____

Appendix I

Interview 1 – Behaviour Analyst

General Interpretation of Repetitive Behaviour	
<i>Questions</i>	<i>Response Summary</i>
1. From your experience do you assess or treat many cases of motor/vocal repetitive behaviour?	<ul style="list-style-type: none"> • Common behaviour that is addressed • Requires intervention for many children • Many children exhibit this behaviour
2. What is your typical Assessment Process?	<ul style="list-style-type: none"> • Start with topographical definition for accurate measurement • Determine levels of behaviour and whether it is in need of intervention • Determine purpose/function • Treatment would depend on function • Sometimes assumed that RB is always automatically maintained – not always the case • Easy to assume function – must look carefully at discriminative stimuli – used case example • If it is automatically reinforced would look at whether it is impeding an individuals ability to learn other functional skills • Try to find items that could compete and provide similar reinforcement – this is where the analysis can become tricky
3. Do you find this behaviour difficult to assess or treat?	<ul style="list-style-type: none"> • Can be more difficult, especially in early learners (often have higher rates) • Once other skills are taught rates are not so intruding • Can be difficult if there is a long history of the behaviour and other skills are not easily established • Hard to isolate what sort of feedback a person may be getting in terms of what is maintaining the behaviour • Issue of free access when engaging in repetitive behaviour – more likely to choose repetitive behaviour than something that is contingent • Want replacement to be more appealing than repetitive behaviour • Takes more effort to find function than other behaviours – often multiple functions so you see the behaviour across multiple conditions • Cautious to assume automatic reinforcement function

Experience with Interdisciplinary Approaches	
<i>Question</i>	<i>Response Summary</i>
1. Do you have any experience conducting assessments in partnership with other disciplines? What does that look like?	<ul style="list-style-type: none"> • Works in services that is primarily behavioural - some opportunity for consultation with SLPs and OTs • Usually blocks of time where they access OTs/SLPs • They [BA agency] identify children that such service seems appropriate • Provide them with background information, observations, and maybe attempt certain things while they are there • Wrap it up with recommendations that are jointly agreed on
2. What are the advantages and disadvantages of conducting collaborative or team assessments?	<ul style="list-style-type: none"> • Depends on people involved • Advantages – provides a different perspective, allows you to see things differently from another idea set • OT perspectives tend to be very different however often can be reformed into a behaviour analysts perspective • OTs can provide detail that he/she had not looked at because it is not his/her area • Disadvantages – different perspective/opinions because you are coming from different systems, disagreements on recommendations and what is occurring and the reasons it is occurring
3. Are collaborative approaches common in ABA?	<ul style="list-style-type: none"> • Multi-disciplinary approaches are usually tied to the design of the program and funding • Behaviour analyst could be better at working with other professionals • When disagreements occur it is assumed that other misunderstand intentions and perspective – cause a lack of dialogue • Realized that if other disagree it is part of the process to keep the dialogue going • Easier to work with other professionals when remained focus on goals and intended outcomes - Can still have debates but you can't let it side track you from what you are trying to do with your client – can have conversations outside of that • Agree to disagree on causes or mechanisms but still move forward • More of a reflection of actual professionals and less about the fields themselves • Can be easy from his/perspective because often outsiders are consulting to his/her program, so ultimately he/she gets to move forward with what is most feasible • Must voice disagreement however – and most recommendations can be recaptured or reanalyzed according to behavioural principles – can be looked at as antecedent manipulations

- Although wording used or theory behind may be different – actual procedures could be used in a behaviour analytic perspective

Repetitive Behaviour Interpretation – Specifics highlighted/identified (Post Observation)	
<i>Question</i>	<i>Response Summary</i>
1. General reflection of videos – what was important?	<ul style="list-style-type: none"> • More questions than answers • What were children's goals/expectations • Different feeling from all four clients – how I would move forward would depend on answers to the questions he/she had • Couple of kids where stereotypy seemed to be intruding – others where it wasn't much of an issue • First gut instinct would be to get follow-up answers • Question whether it was an issue with stereotypy or just a need for some sort of curricular design – very common • Nothing hadn't seen before • Found that it was good there was an attempt to show behaviour at different points in the day • Hard to interpret without client history • Be good to see things from a staff perspective – what do they see as the goal?
2. How would you characterize the events leading up to repetitive behaviour?	<ul style="list-style-type: none"> • First Guy - Free access to objects to use to engage in behaviour – put cake in front of him-going to eat it • Questioned reasons around free access • Not being able to do a lot of the activities • Second Guy - More clear structure – easily could have ended behaviour when asked- not to intrusive on participation – need to examine what the team or family expects – do they want zero rates? • Third girl - stereotypic behaviour not main concern – more concerned with level of upset – is stereotypy a way of displaying that upset • Forth one – where is stereotypy intruding? Get more information on that • Overall access to items, curricular issues, activities at appropriate levels, unclear expectations, need for more individualized programming

3. What role did parent report play in your overall observations?	<ul style="list-style-type: none"> • Helped to give some background • Gives insight into why people think behaviour is occurring – which is just as important even you see a different reason • Historical context (sleep, eating problems, and other biological things) • Helpful for goal selection • Gives an idea of what a family can support in terms skills • Mention of past use of schedules – what has been used in the past
4. What would be your next step involving the cases you observed in the videos?	<ul style="list-style-type: none"> • Follow-up on questions with team • Based on responses, would have to look at some sort of data collection system that is doable in the setting • Look at general goal selection with all of the children • Stereotypy would be incorporated into it but levels may decrease by just helping to formalize things a little better • Would not use behaviour protocols at this stage so much

Interview 2 – Behaviour Analyst

Reflection of OT Perspective	
<i>Question</i>	<i>Response Summary</i>
1. General thoughts on OT report	<ul style="list-style-type: none"> • Sounded like someone he/she could probably work with • Found different ways of describing a situation – OT describe the child as bored the BA would call that unclear what expectations were • Found OT recommendations to include more choice and flexibility to work well with what he/she said • Unclear of OT's idea of a transitional object – based on assumptions and questioned the rationale for this. OT mentioned coping with change – BA tends to be more specific in terms of what events were occurring – one area where he/she said he wouldn't connect the dots • On the same page with actual recommendations – adding structure and clear goals – could work together quite easily on these things.

2. What are similarities?	<ul style="list-style-type: none"> • OT had ideas around expanding on interactions – similar to BA ideas around looking at activities that mirror feedback • Using the behaviours – the behaviour occurs so how can we use them or modify them – that was a commonality • The use of visuals – finding individual way of adding meaning, clear goals and interaction
3. What are differences?	<ul style="list-style-type: none"> • Differences in perspective in terms of understanding causes – for example OT described client three as having a fear response where the BA described it as a difficult demand • OT looked at stereotypy as a way of looking at the body in space – BA found this was a side thing and wouldn't think it would be too difficult to incorporate this, as it is not going against anything he/she would say – it is a different theoretical framework • May have described behaviour in certain situations differently – for example OT discussed a situation where there were confusing messages, rocking behaviour to help cope, facial grimaces – where BA would have described being denied access to the T.V. • Probably agree on first impressions – adding structure and clear individualized goals – that is the big thing – can work on the nuances after that is tackled
4. Do you think this information would be relevant or helpful when conducting your own assessments?	<ul style="list-style-type: none"> • Don't really see it as helpful as they had agreed on a lot of the major goals • Don't know how much the OT report would actually add – came to the same conclusion
5. Do you think this is the type of information that you would typically obtain in practice through an interdisciplinary team from an OT?	<ul style="list-style-type: none"> • Similar but usually when working interdisciplinary there is time when you are actually seeing the child together and can have ongoing discussion/banter back and forth • When banter back and forth starts that when you start to see differences • This report would be the initial opening dialogue • In the initial stages it looked like they were on the same page • Thought it would be interesting to develop a working relationship with the OT • Discussed some differences in terms of assuming function – OT made assumptions of

	<p>causation in terms of frustration, boredom, coping – where BA is more “when A happens – this is what is going on” [more systematic]</p> <ul style="list-style-type: none"> • Questioned whether the dialogue would lead them down different paths in terms of planning • Would assume it would be ok, but it is possible that the different perspectives could lead us down different paths – for example in terms of coping the BA would look at it in terms of teaching a skill where the OT may be looking at more of a general coping strategy
6. Did you learn anything new from reading the summary?	<ul style="list-style-type: none"> • Worked with quite a few OTs so it was not too unfamiliar • Didn't get any new insights or understanding • Only seeing the initial stages – a lot of the insights come when actually working with clients and troubleshooting

Collaboration with OT

<i>Question</i>	<i>Response Summary</i>
1. Do you think more collaboration between OTs and BAs is needed?	<ul style="list-style-type: none"> • Can be helpful – however stay away from overarching statements • His/her job is very client/classroom specific • When it comes to opportunities to work with OTs BA tends to prioritize clients • Client dependent • Resource that he/she can call on • When looking at repetitive behaviour it depends on the professional involved – some work well together some don't • Found involvement around stereotypic behaviour helpful for some clients and not others
2. What would that collaboration look like?	<ul style="list-style-type: none"> • BA is biased because right now when he/she gets consults, they are consulting to our programs – that is the model he/she is more familiar with • In terms of collaboration – it works well when there is an identified need and goal that is being worked on • What can be hard about consultative models is that it is quick, in and out – sometimes it can not be as productive – that is where there can be differences between two professionals – when they are only provided with a little snap shot of what we give them • Ideally there would be a clear goal and you would actually have time – not just drop in, observe, give my five tips, and move on
3. Would any barriers exist that could	<ul style="list-style-type: none"> • One he/she has come across the most is different theoretical viewpoints – can lead us down

<p>prevent collaboration? How would you overcome them?</p>	<p>different paths in terms of what skills to develop or how to respond to certain behaviours</p> <ul style="list-style-type: none"> • Can work on this when you have a working relationship • BA insistence on data, wanting to define everything and measure everything can be something that causes difficulties at times • When consulting – doing to collect data but it is up to BA to find mechanisms that are capable of the setting • BA has to take ownership in designing programs and measurement systems that are responsive to the environments – sometimes this can be a problem • BA expectations can seem overwhelming – don't do a good job in our field with the social aspect the consulting part and can seem a bit top heavy sometimes • To overcome these barriers BA felt it was important to bring things back to the goals of the client • There is usually enough in common that you can set aside differences and set goals • If professionals get off track always bring it back to how they are trying to help the client • If recommendations are not contrary to what we see as beneficial for a client and it doesn't seem to be doing any harm – can you prioritize within • It is not BA's job to convert or vice versa
<p>4. What could be done better by OTs to promote better collaboration with your field</p>	<ul style="list-style-type: none"> • More understanding around data collection, behavioural definitions and measurement • Openness to that dialogue in terms of although the BA may define or program behaviour in a certain way, it doesn't necessarily mean the goals are different • More attempts to understand what BAs see as valuable
<p>5. What could your field do to promote better collaboration with OTs?</p>	<ul style="list-style-type: none"> • BA perspective is very different from even a lot of general psychology • Sometimes BA can be great at analyzing things but very poor at explaining things • We are weaker on the dissemination and interpersonal side • Although what BA sees is meaningful to them – have to remember it may not be meaningful to other professionals, other people, or to support staff • Can't make the assumption that what makes sense to BAs is going to make sense to everyone else and they should just understand it • Important to find ways of disseminating where it doesn't change the science or water down the science but makes it digestible

Interview 1 – Occupational Therapist

General Interpretation of Repetitive Behaviour	
<i>Questions</i>	<i>Response Summary</i>
1. From your experience do you assess or treat many cases of motor/vocal repetitive behaviour?	<ul style="list-style-type: none"> • Yes
2. What is your typical Assessment Process?	<ul style="list-style-type: none"> • Work on early intervention team that includes SLP, OT, and PT • Would do a team intake • Look at parent's identified concerns – depending on what they are we would do consults or further assessments • Active treatment – usually OT and SLP do the co-treatment • Would look at whether behaviour is impacting the child's functioning – if not would try to educate the parents about ultimately looking at child's functioning and see behaviour as meaningful and purposeful • Would not conduct an assessment of only repetitive behaviour – would be looking at how the child is playing, interaction, his/her joint attention and how you can engage with them overall • Would try specific strategies such as joining them to try to initiate joint attention – if they spin, he/she will spin • Would try to get parents to mirror some of the child's behaviour to encourage interaction – can lead to more purposeful interactions or play – model where you are coaching parents on getting interaction rather than having them escape and engage in hand flapping or other RB • Once child is engaged you will see a reduction – may come back in stressful situations – we all do this • Would look at what is happening in the environment – stressors, sensory components, excitement, boredom, do they have ideational apraxia (do not know what to do with an object) and anxiety • May use modeling – to model how to appropriately use objects • Would identify auditory or visual stimuli – child in pre-school setting may engage in repetitive behaviour because it is a loud and visually distracting environment – also tactile stimuli, stressful activities – discussed aversions to certain stimuli
3. Do you find this behaviour difficult to assess or treat?	<ul style="list-style-type: none"> • Repetitive behaviour would not OT's sole focus – focus is to have child engaged in more productive activities – repetitive behaviour is just one small element of that – not the main goal • Goal is to expand child's play and joint attention

	<ul style="list-style-type: none"> • Look at self-help skills and transitioning • If repetitive behaviour is all child is doing recommended some specific strategies – sensory activities to better organize and better focus, vestibular activities (platform swings) to help focus and attention, chew objects (hand mouthing) give alternatives, provision of input throughout the body – proprioception or deep muscle input, oral sensory diets, and basic redirection.
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Experience with Interdisciplinary Approaches	
<i>Questions</i>	<i>Response Summary</i>
1. Do you have any experience conducting assessments in partnership with other disciplines? What does that look like?	<ul style="list-style-type: none"> • With ASD population it is mostly in conjunction with SLP – together would look at joint attention, how child is able to initiate/engage with a partner, emotional attachment, meaningfulness of activity – come from the same philosophy – DIR (floor time) approach • Highlights the importance of affect in learning – hook child in and get joint attention and from there get more focused and productive activity • Also part of a program currently where OT is working with resource teachers – more of a unique situation- but agency does consult to them • Occasionally have behavioural psychologists involved and available for consultation – but this rarely happens unless you are looking at a behaviour like self-injury • When this happen would problem solve and get different ideas around reducing self-injurious behaviour • Well aware of the idea of looking at antecedents and consequences – this is what BA looked at – kept records • Explained situation where behavioural psychologist coached them through (life threatening situation) – was instrumental in helping with this situation
2. What are the advantages and disadvantages of conducting collaborative or team assessments?	<ul style="list-style-type: none"> • Don't see any huge disadvantages – especially with SLP as they come from the same approach/philosophy and they are very familiar with each other – have a way of reading each other • If it were an SLP that OT did not work regularly with, it would be more challenging because he/she wouldn't be as familiar with their perspective • In terms of resource teachers – because they don't work together as much they don't know each other as well – found that they come from a different perspective that focuses on learning skills and school readiness • Finds RT can get really stuck on products and don't focus enough on the process – how the

	<p>child is engaged in the process of doing an activity – if caregiver is providing hand over hand, child is not actually doing the activity</p> <ul style="list-style-type: none"> • Useful to have different perspectives • BA provide a different perspective – go through things in a very structured and ridged manner • Helps to look at things differently, be more reflective and objective • Can't think of disadvantages – more ideas the better • OTs have an idea of what other disciplines are looking for just as BA would be aware of the sensory type things OTs would be looking for
3. Are collaborative approaches common in OT?	<ul style="list-style-type: none"> • Depends on the environment and population you are working with • Very collaborative model set up in this region – program is very trans-disciplinary (SLP, OT, and PT) – members do not always wear their own hats – they learn through each other as a team and help develop awareness of each others disciplines • Can call on each other when issue arise • Give parents some preliminary information from their knowledge of other fields

Interview 2 – Occupational Therapist

Repetitive Behaviour Interpretation – Specifics highlighted/identified (Post Observation)	
<i>Question</i>	<i>Response Summary</i>
1. General reflection of videos – what was important?	<ul style="list-style-type: none"> • Not typical environment for the children – if they are new to the camp setting you are going to see stereotypical behaviour as it is at a time that they are feeling stressed • Would be curious to see them in a variety of environments • If it is problematic – what are they like in other environments • Communication with facilitator could have been enhanced especially around times of transition • Several of the children it was indicated that graphics were used at home and were found helpful but there was nothing used • Children did not look interested in activity, looked bored – were not engaged • No choice given to the children • Children had objects they flapped but it didn't seem like they needed to have them

	<ul style="list-style-type: none"> • Second client was cooperative, followed directions well, put away objects easily – he had it available to him too much • Questioned the what would happen without the string for the first child – perhaps only give it to him at times of transition – security • Questioned meaningfulness of the activity with fourth child – had some echoic language, repeated phrases associated with movies – so that is what is meaningful to her • When she saw T.V. that acted as a cue to watch T.V. – she could not focus or be engaged with the other activity • Overall lack of communication during times of transition and unclear expectations • Goal for any child is optimal participation and functional activity • Wouldn't hone in on stereotypic behaviours
2. How would you characterize the events leading up to repetitive behaviour?	<ul style="list-style-type: none"> • Transitions • Response to being asked to do an activity that they did not want to do or they were anxious about • Motor planning issues • Availability of items/objects – client with socks – didn't seem to need them – Facilitator did not take advantage of opportunities to engage with him (gave example) • Changing activities without any apparent purpose • Lack of control of the starting and stopping of activities from children • Lack of choice • How expectations were presented • If they changed how facilitators were interacting with their clients – perhaps RB could be reduced • RB not a huge issue
3. What role did parent report play in your overall observations?	<ul style="list-style-type: none"> • Didn't really use it - would in own practice but environment in the videos was too specific • Would have used it more if had samples from other environments (home) – gym was not a typical reflection of their daily activities • When interviewing parents he/she asks questions about sensory processing he/she gets a better sense when she can ask further questions to get a better sense. Sometimes what parents think to be a sensory issue but when further questions are asked - turns out to be different
4. What would be your next step involving the cases you observed in	<ul style="list-style-type: none"> • Would not address reducing stereotypical behaviour as a goal • Goal would be – how to optimize the child's functional participation in a community group

the videos?	<ul style="list-style-type: none"> • Communicate with facilitators of the group • Provide suggestions around engaging the children in activities – when they are engaged in meaningful activity, you will get more productive behaviour • Would look at communication – incorporate graphics and choice making • Set up the child for success
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Reflection of BCBA Perspective	
<i>Question</i>	<i>Response Summary</i>
1. General thoughts of BCBA report	<ul style="list-style-type: none"> • Very Thorough • Useful in terms of reflection • A lot of BA thinking was along the OT line – Follow up questions would be similar • The BAs ability to think of the antecedents and the consequences as well as the added structure in terms of measuring things before and after is helpful
2. What are similarities?	<ul style="list-style-type: none"> • A lot of the observations – for example whether children understand what is being asked of them, lack of communication and use of graphics • Also noted child's interest in the activity • Some observations were around using contingents – this was OTs thinking in terms of having the items available at certain times • Modifying the behaviour with rewards or social interaction – gave example of facilitator that had a felt connection with one of the children • BA talked about scheduling flap time in as a reinforcer – that is similar to OT in that he/she suggested to build it in at times when you know the child will have more difficulty- perhaps times of transition – sensory diet • Similar in terms of what happened before during and after in terms of antecedents and consequences
3. What are differences?	<ul style="list-style-type: none"> • More detail oriented in terms of the rate of stereotypy when a ritual was presented • Measurement part in terms of frequency and what if you modify • Something OT would consider is there a visual or auditory issue that the child is having difficulties with (i.e., balls bouncing, extra echoey voices) • Data collection method is something that OTs would not do quite so much – not experienced as Ots – BAs are very vigorous

	<ul style="list-style-type: none"> • Do find it valuable having done that under the guidance of a BT
4. Do you think this information would be relevant or helpful when conducting your won assessments?	<ul style="list-style-type: none"> • For sure – in terms of looking at what can be used as a contingent – not having objects available all the time • Same level of thought around potential for social reinforcement • Think it is beneficial to have the input and collaboration of a BT from a structured measurability sense
5. Do you think this is the type of information that you would typically obtain in practice through an interdisciplinary team from an OT?	<ul style="list-style-type: none"> • That has been my experience
6. Did you learn anything new from reading the summary?	<ul style="list-style-type: none"> • Very similar in terms of what we were looking at • Again it's the more technical measuring where BA would be headed
Collaboration with BCBA	
<i>Question</i>	<i>Response Summary</i>
1. Do you think more collaboration between OTs and BAs is needed?	<ul style="list-style-type: none"> • Only when behaviour is impacting the child's functional abilities • For the most part these children participated eventually although not terribly functional or meaningful • Main focus of OT is functional participation and functional activities • None of the activities were of the children's choosing • Understand it is a community group and they are trying to provide physical activity and motor planning but their could be more creative ways to get them to participate more meaningfully • As each of the children was engaged in something of their own choosing – you did not see the behaviour as much
2. What would that collaboration look like?	<ul style="list-style-type: none"> • Would have a discussion about whether it was sensory seeking or just a repetitive motion • Would look at when it is occurring – what is happening during and after a situation, for example was the child calm and focused then activity ended or were they asked to transition • Look at what was the environment like – looking at sensory inputs the child is being exposed to and seeing if that is a contributing factor, was it noisy? • Look at communication – do they understand what is being expected • Everyone has different perspectives – two heads is better than one • Only modifying if stereotypic behaviour is problematic – question what the child is getting out of it

	<ul style="list-style-type: none"> • Is it something they need to do in terms of are they getting visual stimulation out of it, is that helping them to remain calm and organized rather than having a melt down • A lot of OTs are of the opinion that fidget toys are ok – unless it is preventing the child from participating in activities • Have BT involved when it is attention seeking behaviour • It is a back and forth discussion – then BA would set up some parameters and get some measurability • Can analyze the data and see patterns in one environment over another • Back and forth – understanding of perspectives
3. Would any barriers exist that could prevent collaboration? How would you overcome them?	<ul style="list-style-type: none"> • Availability of BA is extremely limited • Waitlists are over two years • Availability of resources • BA in this area works well with us – has not been communication issues • At times of crisis he/she has made him/herself available but for the majority of clients this is not an issue • No barriers in OTs experience
4. What could be done better by BTs to promote better collaboration with your field	<ul style="list-style-type: none"> • In his/her experience there has been open communication • In other environments with other clinicians the communication may not be as open • BA may not be as readily available and perhaps not as understanding of the unique developmental needs of the clients • If coming from a pure behavioural approach – not understand impacts of cognitive delays and sensory processing challenges and that our sensory systems can vary from day to day – one situation can be very different from another or in the same situation it can be different day to day • If there is a lack of knowledge of sensory processing that could be a barrier • That has not been his/her experience
5. What could your field do to promote better collaboration with BAs?	<ul style="list-style-type: none"> • Just communication • Working together

Appendix J

Participant Feedback Letter

Dear Participant,

I would like to thank you for your participation in the study entitled: An Exploration of Interdisciplinary Practice Through an Examination of Specific Disciplinary Interpretations of Stereotypic Behaviour. Your participation was essential in the implementation of this study. I want to thank you for allowing us to observe your child, as these observations provided important information surrounding interdisciplinary collaboration and specific interpretations of stereotypic behaviour. I very much appreciate all of your cooperation and support.

As per your request, I have attached each professional's report regarding your child, summary of research findings, and your child's video footage. I would like to emphasize however that the behaviour analyst and occupational therapist reports are not formal assessments of your child's behaviour. They can be used for informational purposes only and are not meant to be diagnostic or prescriptive in any way whatsoever. That being said, I hope that this information is useful for you and your child.

Feel free to contact my faculty supervisor or myself at any time if you have questions or concerns.

Thank you,

Sincerely,

Teryn Bruni

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Appendix K

Within Case Findings

Interview 1 – Behaviour Analyst

General Interpretation of Repetitive Behaviour	
<i>Key Words</i>	
<ul style="list-style-type: none"> • Intervention (4) • Definition (1) • Measurement/data (4) • Function (6) • Automatically maintained (6) • Assumptions (2) • Impeding/intruding (2) • Skills (3) • Compete (5) • Reinforcement (6) • Analysis (6) • History (1) • Feedback (1) • Isolate/control (1) • Contingent (3) 	
<i>Indigenous Typologies</i>	<i>Quotes</i>
<p>Referred to children as “child” or “children” five times throughout</p> <ul style="list-style-type: none"> • “Child” seemed to be used most often when talking about a specific child that he/she worked with, however at times it was used synonymously with “client” <p>Referred to children as “clients” five times throughout</p> <ul style="list-style-type: none"> • “Client” was used to describe individuals he/she worked with generally, not referring to someone specific 	<ul style="list-style-type: none"> • “... A child I was working with recently had high rates of a particular stereotypy...” • “...there are times when you are able to identify something that competes but if you try to make it too contingent the child or the client has a situation where you made have a something that competes or may even provide better but it is tied to some sort of expectation...” • “... so a lot of these are somewhat client dependent variables. But in general what it comes down to is determining function...look for elements that can compete or serve as a similar sort of thing and how you implement it depends on the clients individual needs...”

<p>Functional Categories</p> <ul style="list-style-type: none"> • BA referred to functional categories of behaviour: either behaviour was automatically maintained or socially maintained – approach would be different depending on what was found 	<ul style="list-style-type: none"> • “...I would go in like any other behaviour and try to understand initially what is the function, what is the rationale for the behaviour, treatment post that would be very dependent on if other functions other than automatic were identified.” • “...with automatically maintained, it also comes down to severity as well... is this something that is impeding their ability to learn other functional skills, if so it would be a matter of ... I like to look at what’s the quality of the reinforcer... can you identify items that compete...” • “... it would be very simple to say it was happening across conditions or it doesn’t see to be relevant, but when you actually look at the data differently it turned out to be an escape function...”
<p><i>General Findings</i></p>	
<ul style="list-style-type: none"> • The BA identified that repetitive behaviour is a common behaviour that he/she encounters and often requires intervention for many children. • In terms of the process he/she would take when looking at a client with this behaviour, he/she explained he/she would first define the behaviour topographically in order to accurately measure the behaviour. Depending on the levels/frequency of the behaviour it would be determined whether or not the behaviour is in need of intervention. If so the BA would determine the function of the behaviour, and the treatment would depend on the function identified. • The BA emphasized throughout the interview that he/she is very cautious to assume behaviour is automatically reinforced. He/she explained that often individuals in the field assume that the function is automatic and do not conduct further analyses to confirm that assumption. He/she explained that it is important to look very carefully at discriminative stimuli. 	

- If it does turn out behaviour is automatically reinforced he/she explained that he/she would identify whether or not the behaviour is impeding on the child to learn new skills. If so he/she would try to find items that can compete with the behaviour and provide similar reinforcement, however he/she identified that this is not always easy to do.
- When asked about the difficulties in assessing and treating this behaviour, the BA explained that this could be especially difficult with early learners who have higher rates of the behaviour and longer learning histories of engaging in the behaviour, however he/she found that once additional skills are taught rates tend to not be so intruding.
- Often the type of feedback the individual is receiving from engaging in the behaviour is difficult to identify. Also he/she mentioned the issue around free access. He/she explained that even if you provide something that could compete with the behaviour, often it is easier to engage in the behaviour than try to access something contingent on other behaviour. He/she explained that you would want the replacement to be more appealing than engaging in the behaviour.
- He/she found overall that repetitive behaviour requires more effort than other behaviours in terms of identifying functional properties, however he/she again reiterated that he/she is cautious to assume automatic reinforcement function.

Experience with Interdisciplinary Approaches	
<i>Key Words</i>	
<ul style="list-style-type: none"> • Consultation (3) • Service (2) • Recommendations (7) • Different perspectives (7) • Systems (1) • Disagreements (7) • Dialogue (3) • Goals/Outcomes (2) • Feasibility (1) • Multi-disciplinary (1) 	
<i>Indigenous Typologies</i>	<i>Quotes</i>
Behavioural Services vs. Outside Consultants <ul style="list-style-type: none"> • The BCBA was clear around the behavioural agency and the consults that come in. • The behavioural agency is the decision maker and the consults provide recommendations that may or may not be considered 	<ul style="list-style-type: none"> • "...Although I work in a service that is very behavioural there has always been opportunities to have consultation...from Speech Language pathologists...Occupational therapists...those are probably the primary two..." • "...it can be easy from my perspective

	because a lot of time they are consulting to my programs...so ultimately I get to move forward with what seems to be the most feasible..."
<i>General Findings</i>	
<ul style="list-style-type: none"> When asked if the BA had any experience conducting assessments in partnership with other disciplines, he/she discussed the consultation process that usually takes place in the current agency he/she works within. He/she explained that there are usually blocks of time that they can access consultants. They identify children that they feel need such consultation and provide background information and observations to the individual doing the consult. They may attempt certain things while visiting, however they usually wrap up with some recommendations that are jointly agreed upon. He/she identified that such collaborative approaches depend on who is involved. He/she discussed the advantage of having different perspectives and that OTs specifically can provide details that he/she would not typically think of, however such differences can turn into disagreements in terms of recommendations and interpretations of behaviour. He/she explained that although perspectives can be different often they can be reformed into a behaviour analysts perspective. When asked if collaborative approaches are common in ABA he/she discussed how multi-disciplinary approaches are really dependent on the design of a program and the funding sources. He/she felt that behaviour analysts could be better at working with other professionals in terms of understanding that others may disagree with their approach and continue a dialogue with those professionals when disagreements to occur. It is easier to work with others when remaining focused on the goals of the client. It is important to not let disagreements impede the work with the client. Discussed how it was easier for him/her because for the most part professionals are consulting to his/her program, therefore he/she gets to make the final decisions regarding whether or not to follow through with recommendations It is important to voice disagreements however most recommendations can be reframed into behavioural terms (i.e. antecedents) 	

Interview 2 – Behaviour Analyst

Repetitive Behaviour Interpretation – Specifics highlighted/identified (Post Observation)
<i>Key Words</i>
<ul style="list-style-type: none"> Questions (3)

<ul style="list-style-type: none"> • Goals/Expectations (12) • Intruding (5) • Curricular Design (2) • Accessibility (4) • Appropriate level (2) • Individualized programming (3) • Skill development (1) • Data collection/measurement (2) 	
<i>Indigenous Typologies</i>	<i>Quotes</i>
<p>The BA referred to the children as “child” or “children” some of the time (8) however more often he/she referred to them as “clients” (12)</p> <ul style="list-style-type: none"> • Used pretty interchangeably, however it seemed that he/she used “child” most often when referring to the children in the videos and “client” most often when talking about his/her general practice. 	<ul style="list-style-type: none"> • “...I would probably be looking at just in general some sort of goal selections umm I think with all of the children that probably would have been my first thing...” • “...so when I look at opportunities to work... with OT consults I tend to prioritize clients...”
<p>Referred to students in videos as “the team” or “staff”</p>	<ul style="list-style-type: none"> • “...what would have been really helpful is from a staff perspective what do they see as ... the goal...” • “...obviously I would have to follow up with some of those questions with the team or the group...”
<p>Intruding behaviour vs. non-intrusive behaviour</p> <ul style="list-style-type: none"> • The BA made a distinction after watching the video regarding repetitive behaviour that was intrusive and that that was not intrusive • Intrusive would impede or inhibit skill development where non-intrusive is not impeding and would not be targeted. 	<ul style="list-style-type: none"> • “...there were the couple where it seemed to be intruding... others where it didn’t seemed to be as much of an issue from my perspective...”
<i>General Findings</i>	
<ul style="list-style-type: none"> • The BA found that after watching the videos, he/she had many questions that needed answers. • The BA emphasized the importance of having goals set for the children and a set curricular design. • He/she discussed that for some of the children he/she felt that stereotypic behaviour seemed to be intrusive in the setting, where with others it didn’t seem to be a problem. 	

- Felt that although it was good to see the behaviour at different sections of the day, he/she felt that getting a staff perspective would have been helpful in terms of understanding what the overall goals were for the child.
- He/she felt that items used to engage in stereotypic behaviour could have been less accessible to the children – he/she questioned the reasons behind the free access.
- He/she discussed the importance of understanding what the family expects in terms of rates of stereotypic behaviour
- Discussed one client where stereotypic behaviour could have been or could not have been related to level of upset displayed throughout the video.
- The BA found the parent report to be helpful in providing some background information on the clients and helped to gain insight into what the parent perceived the function of the behaviour to be.
- Found this to be a helpful tool for goal selection in terms of what the family can support and what has been attempted in the past.
- The BA discussed his/her next steps in terms of getting answers and to follow-up questions and based on the responses to those question, he she would set up a system for data collection which would be compatible for the camp setting. He she would look at general goal selection and likely stereotypy would be incorporated, however levels may decrease if things were more formalized.

Reflection of OT Perspective	
<i>Key Words</i>	
<ul style="list-style-type: none"> • Dialogue (3) • Looking at things differently/describing things differently (5) 	
<i>Indigenous Typologies</i>	<i>Quotes</i>
BCBA's vs OTs <ul style="list-style-type: none"> • As this was the aim of this section the OT differentiated what types of things OTs focused on and what behaviour analysts focused on • Most differences were identified in terms of description of behaviour and causes of behaviour. The behaviour analyst described things much more systematically and specifically. 	<ul style="list-style-type: none"> • "...it's a different perspective in terms of understanding causes...client three is referred to as fear response or things like that where I looked at it as a difficult demand..."
<i>General Findings</i>	
<ul style="list-style-type: none"> • The BA's general thoughts surrounding the perspective of the OT was that he/she felt that 	

this was someone he/she could easily work with. They seemed to be on the same page in terms of actual recommendations (i.e., adding structure and clear goals).

- He/she found that they generally had different ways of describing situations, for example where the OT described someone as bored, the BA described this as an unclear expectation.
- He/she felt that he/she was unclear about the rationale behind some of the recommendations.
- In terms of direct similarities, the BT found that the OT had similar ideas around expanding interactions and identifying the feedback being produced by the behaviour. Also the idea of using the behaviour to our advantage was similar along with the use of visuals to communicate expectations.
- Differences were primarily identified around the interpretation of the causes of behaviour (e.g., fear response vs. difficult demand).
- The BA also found that the OT focused on aspects that he/she would not typically focus on such as “the body in space,” however he/she felt that this would not impede in the ability to work together – does not change the overall goals.
- He/she felt that that would probably agree on the first impression to add structure and clear, individualized goals
- When asked if the additional information would be helpful, he/she did not think this report would add much as they ultimately came to the same conclusion and agreed upon the major goals.
- The BA found that this information was too limited as they did not actually see the client together and could not have discussion and dialogue together. He/she explained that with further discussion, more differences in approach may be identified.
- He/she felt it would be interesting to develop more of a working relationship with the OT.
- However he/she felt that the more discussion that occurred around causation and planning, it may reveal that they do not have the same goals.
- When asked if he/she learned anything from the OT report he/she felt it wasn’t anything he/she has not seen before and felt that more insights would come from working with the clients and “troubleshooting” with the OT.

Collaboration with OT

Key Words

- Prioritize clients (2)

<ul style="list-style-type: none"> • Client dependent (2) • Resource (1) • Consults (6) • Goals (6) • Theoretical (4) • Working Relationships (2) • Data collection (4) • Understanding (2) • Openness (3) • Dialogue (3) • Values (1) • Meaningfulness (2) 	
<i>Indigenous Typologies</i>	<i>Quotes</i>
<p>Consultative Model</p> <ul style="list-style-type: none"> • BA described the model he/she typically uses when working with other professionals • With this model the professional come to him/her upon request and makes recommendations • This interaction is described to be quick and provide a few recommendations that may or may not be used. • 	<ul style="list-style-type: none"> • "...the one thing that can make it hard sometimes with...consultative models is a lot of times it's...it's quick...it's in...it's out..."
<i>General Findings</i>	
<ul style="list-style-type: none"> • When asked whether or not more collaboration was needed, the BA felt that this was not something that could be generalized to all clients. He/she felt that overall it depended on the client involved as well as the other professional involved. He/she explained that found this approach helpful for some clients and not as helpful for others. • The BA explained that he/she is more familiar with a consultative model where OTs consult to his/her program. When it comes to consultation, he/she explained that it works best when there is an identified need. However he explained that with this model, he finds that interaction with the OT is very brief and they are not provided with much time to discuss goals and approaches. • When asked about specific barriers, the BA discussed differences in theoretical viewpoints, which can create conflict in terms of what skills need to be developed and how to respond to specific behaviour. • He/she felt that such differences can be resolved when there is a working relationship between the two professionals. • Another barrier he/she identified was the BAs insistence on data. He/she felt that 	

sometimes other disciplines feel that these expectations are too high. He/she said that because of this it is important to have data collection methods fit in with the setting and are easily conducted by the people involved.

- He/she felt that in order to overcome these barriers focus has to remain on the goals of the client.
- When asked what OTs could do to better facilitate collaboration, he/she felt that more understanding around the need to collect data and define behaviour would be helpful, along with more openness to dialogue surrounding this issue. He/she felt that it was important for OTs to understand what BAs “see as valuable.”
- When asked what BCBA could do, he/she discussed interpersonal issues that are common among BAs, in terms of being able to explain their perspective. He/she felt that BAs have to realize that other professionals may not see things the same way and can not expect people to understand what they do.
- He/she felt that dissemination was very important, however BAs need to find better ways to do this among other disciplines.

Antecedents Identified In Interview 2

- Lack of clear goals/expectations
- Lack of curricular design
- Free access to objects used to engage in stereotypic behaviour
- Inability to do many of the activities
- Need for more structure
- Level of upset
- More individualized programming

Interview 1 – Occupational Therapist

General Interpretation of Repetitive Behaviour

Key Words

- Active treatment (2)
- Impacting child functioning (6)
- Meaningful and purposeful behaviour (4)
- Interaction (6)
- Engagement (8)
- Joint attention (6)
- Stressors (4)
- Sensory Components (4)
- Excitement (1)
- Boredom (1)
- Anxiety (1)

<ul style="list-style-type: none"> • Self-help (1) • Transitioning (1) • Focus/better organize (6) • Vestibular activities (1) • Proprioception /deep muscle input (2) • Sensory diets (1) • Redirection (1) 	
<i>Indigenous Typologies</i>	<i>Quotes</i>
<p>Referred to clients as “children” or “child” primarily (36)</p> <p>Referred to clients once throughout the first interview</p>	<ul style="list-style-type: none"> • “...we then look at function and how some of the behaviours are impacting the child’s function...” • “...we are constantly.... talking about each client so....how did that go... what do you think... and so forth...”
<p>Functional vs. Non-functional Behaviour</p> <ul style="list-style-type: none"> • OT referred to the importance of functional or purposeful behaviour. He/she discussed the importance of behaviour not impacting child’s functioning and the child engaging in productive activity • Functional behaviour included those that were meaningful to the child, those that demonstrated the child was engaged in interactions or play with others, joint attention 	<ul style="list-style-type: none"> • “...we then look at function and how some of the behaviours are impacting the child’s function...” • “...If I see a child is participating in some repetitive behaviour I might do some strategies to see if I can join them... I might join them in their repetitive behaviour to see if that can get some joint attention and some interaction happening...” • “...to see every behaviour as meaningful purposeful, so the fact that the child is participating in some of those repetitive behaviours...have the parents try to mirror those and use that as a jumping point to get some more interaction going with the child...”
<i>General Findings</i>	
<ul style="list-style-type: none"> • The OT discussed some the general process involved in a case of a child who engaged in repetitive behaviour, which included input from the parents, an evaluation of whether or not the behaviour is impacting the child’s everyday functioning, and an evaluation of what is happening in the child’s environment. • Environmental factors discussed were stressors, sensory aversions, excitement, ideational 	

apraxia (no knowing what to do with an object), and anxiety

- The OT emphasized that repetitive behaviour would not be his/her sole focus, it would be just one small piece of her overall treatment plan. Her approach was more around promoting play and interaction, which she felt in turn helps to decrease the need for children to engage in less productive behaviour.
- Some specific strategies he/she would use to help encourage more productive activity include: Sensory activities, vestibular activities (platform swings), chew objects (for hand mouthing), provision of input throughout the body (proprioception) or deep muscle input, oral sensory diets and basic redirection.

Experience with Interdisciplinary Approaches	
<i>Key Words</i>	
<ul style="list-style-type: none"> • Consult (4) • Coached (2) • Approach/Philosophy (6) • Perspective (10) • Collaborative (2) • Trans-disciplinary (1) • Work in conjunction (1) 	
<i>Indigenous Typologies</i>	<i>Quotes</i>
Products vs. Process <ul style="list-style-type: none"> • OT discussed how OTs are more interested in the process of how a child engages in an activity and don't care so much about the end product 	<ul style="list-style-type: none"> • "...lets look at the process that's much more important... its not getting the task done and how it looks in terms of some craft activity or something like that... we don't care about what it looks like...its how the child is engaged in the process..."
Consultative vs. Trans-disciplinary <ul style="list-style-type: none"> • OT discussed two different types of relationships with other disciplines/professionals; those that were trans-disciplinary – where two or more professionals work from the same philosophies and develop awareness of the others disciplines and those that were more consultative – where either the OT gives recommendations within a program or gets recommendations from an outside discipline 	<ul style="list-style-type: none"> • "...we're very trans disciplinary as well...we don't tend to just wear our own hat...we umm learn through each other in working with each other and we are a consistent team all of the time..." • "...because children are integrated into a daycare program and they may have ASD tendencies...we consult with them as well..." • "Occasionally we do have...behavioural psychologists involved as well and we have them

	available for consultation”
<i>General Findings</i>	
<ul style="list-style-type: none"> • Most work is done in collaboration with disciplines within the agency which includes SLPs, OTs, and PTs. The OT discussed collaboration primarily with the SLP. She discussed how they come from the same philosophy and have a high degree of familiarity with each other. They do team intakes within the agency. Everyone develops awareness of each other’s disciplines within the agency. • The OT also talked about consultation work he/she does with resource teachers. This relationship was not described to be as strong as those with the SLPs in his/her agency. He/she talked how resource teachers have a different perspective in terms of focus. He/she found that resources teachers come from a skill development and school readiness framework and are often more concerned about the product of doing specific activities. OTs are more concerned with the process of going through an activity rather than the produce itself. • Finally the OT discussed his/her work with behavioural psychologists. He/she talked about how they provide perspective that is much more structured and rigid than an OT perspective. He/she found their approach was helpful in looking at things more objectively. However he/she explained that such consultations are very rare. Behavioural psychologists are usually only called upon for consultation around more severe behaviour such as self-injury. • However he/she explained that he/she was well aware of what behavioural psychologists are looking for in terms of antecedents and consequences and felt that they would also have an awareness of what OTs were looking for in terms of sensory components. 	

Interview 2 – Occupational Therapist

Repetitive Behaviour Interpretation – Specifics highlighted/identified (Post Observation)
<i>Key Words</i>
<ul style="list-style-type: none"> • Communication (6) • Transition (7) • Graphics (6) • Meaningfulness (5) • Engagement (12) • Expectations (4) • Optimal participation (9) • Functional activity (6) • Anxiety (1) • Availability of items (7) • Purposeful (1) • Choice/control (6) • Interaction (5)

<ul style="list-style-type: none"> • Environment (14) • Sensory Processing (9) • Goals (3) 	
<i>Indigenous Typologies</i>	<i>Quotes</i>
<p>Primarily labeled participants as “children” or “child” throughout (49)</p> <p>Did refer to “clients” (7) mostly when referring to the children as a group or in reference to relationship the child had to the facilitator or professionals (him/herself)</p>	<ul style="list-style-type: none"> • “...the overall theme with all of the children was a lack of communication...reduced ability to help the children transition with the use of graphics or the expectations and lack of choice given to the children in terms of what they were participating in...” • “...I just did the summary on what I saw but that is certainly things that I would consider if I was involved with these clients...” • “...all four clients...the communication aspect with their leader or facilitator or whatever was an area that could be enhanced upon to help with transition time...” • “...how the facilitators were... interacting with their clients, if some changes could be made in that area then perhaps some of the repetitive behaviour could be reduced...”
Labeled students at the camp as “facilitators” (11)	<ul style="list-style-type: none"> • “...I think certainly for him there is more opportunity to engage him in interactions with his facilitator... had his facilitator honed in on his interests...reading the book...”
<p>Interaction/Engagement time vs. Transition time</p> <ul style="list-style-type: none"> • OT discussed two separate situations in the camp setting throughout her interview. She discussed times when students should be engaging and interacting with the child and then times of transition when the child may be anxious/upset/stressed, when repetitive behaviour may need to occur or objects may be needed to help get children through this time. • At times of engagement repetitive 	<ul style="list-style-type: none"> • “...the same with some other circumstances where when the children were balancing on the trampoline...so they were engaged but then the facilitator umm decided it was time to move on to the next tramp right beside...well why? To what purpose when the child was engaged and was motivated and was having fun...and then all of a sudden the facilitator stopped it to move to the one beside it...”

<p>behaviour shouldn't been needed – RB objects could be removed at times of transition this is when those objects could be made available</p>	<ul style="list-style-type: none"> • "...if they weren't engaged in the activity... so they're just kind of passing their time. Umm...and certainly at times some of the children had some of their objects they tended to flip or flap and didn't look like it was something they really needed to have..." • "...I question about the first child as well with the string what would happen if it wasn't there... it wasn't present for him...and maybe give him at times, a transition...as a security transition item only rather than having it available all the time..."
<p><i>General Findings</i></p>	
<ul style="list-style-type: none"> • The OT focused mainly on issues of communication and lack of engagement among the children. He/she discussed the need for graphics or visuals to be used with all of the children, especially around transitional times. He/she talked about the importance of the children being engaged and interested in the activities around them. He/she felt the activities were not meaningful to the children. • The OT identified several environmental variables that he/she felt lead up to repetitive behaviour in several of the children. These included times of transition, presentation of non-preferred activities, anxiety about activities/lack of expectations, and the frequent availability of items the children could use to engage in repetitive behaviour. She also mentioned the frequent rotation through activities and the lack of control or choice children had when it came to what activities to engage in and when those activities began or were stopped. • He/she found that the parent report did not provide sufficient information to be useful in interpreting the behaviour in the camp setting. He/she felt that if they could have a discussion with the parents presenting their own questions and probes that would have been more useful. • Overall the OT expressed that he/she would not address stereotypic behaviour in these children, rather he/she would work on overall functional participation and overall engagement in activities , as he/she stated, when children are engaged in meaningful/purposeful activity you will see more productive behaviour. • He/she said he would target this by discussing issues around communication and choice making with the facilitators at the camp (i.e. use of graphics for clear expectations) 	

Reflection of BCBA Perspective	
<i>Key Words</i>	
<ul style="list-style-type: none"> • Reflection (3) • Observation (3) • Questions (4) 	
<i>Indigenous Typologies</i>	<i>Quotes</i>
<p>OTs vs. behaviour analysts/behaviour therapists</p> <ul style="list-style-type: none"> • As this was the aim of this section the OT differentiated what types of things OTs focused on and what behaviour analysts focused on • OTs described his/her approach as more sensory based and looking for times when child had difficulty, where he/she described BA as more detail oriented, technical, and structured 	<ul style="list-style-type: none"> • "...something that we would consider is that is there bouncing balls all over the place so a visual distraction or is there an auditory issue that the child is having difficulties with, is there extra voices an echoey gym and things like that..." • "...more detail oriented in terms of the rate of stereotypy when a ritual was presented and umm come in with the whole measurement part of it in terms of frequency and what if you modify..."
<i>General Findings</i>	
<ul style="list-style-type: none"> • Generally the OT felt that the BCBA report was very similar to what he/she would focus on. He/she felt that they would have asked very similar follow-up questions. Overall the additional structure provided by the BCBA was found to be a useful component. • Similarities the OT identified included the observation around the lack of communication and use of graphics, as well as having objects available to the children only at certain times. The BCBA also noted the lack of interest in activities on the children's part. He/she found that the reports were similar in that they both looked at what happened before and after the behaviour occurred. • A major difference that the OT identified was the amount of detail the BCBA provided in terms of adding in suggestions for data collection and measurement. He/she felt that OTs would focus more on the sensory components (i.e., visual or auditory issues) within the child's environment. • Overall the OT felt that the information the BCBA provided would be helpful when conducting his/her own assessments in terms of the added structure and data collection measures. He/she expressed that he/she did find this component valuable, having done it under the guidance of the behaviour therapist she currently works with. • Although he she finds this aspect helpful, when asked if she learned anything from the BCBA report, she said that she found that the reports were really similar and did not really see anything new that she has not seen before. 	

Collaboration with BCBA	
<i>Key Words</i>	
<ul style="list-style-type: none"> • Impacting functional abilities (5) • Discussion (2) • Sensory factors (6) • Understanding perspectives (5) • Availability (8) • Resources (2) • Open communication (4) • Lack of knowledge (1) • Working together (1) 	
<i>Indigenous Typologies</i>	<i>Quotes</i>
Behavioural approach vs. "Pure" behavioural approach <ul style="list-style-type: none"> • OT felt that she had good communication with the current behaviour therapist that she worked with, however she did identify the possibility of conflict with "pure" behaviourists, who may not understand important impacts of cognitive delays and sensory processing challenges 	<ul style="list-style-type: none"> • "...perhaps someone that comes from pure behaviourists background is thinking pure behaviour kind of approach, but when you throw in the cognitive delay and perhaps other behaviour therapists may not be as understanding of the impact sensory processing challenges can have..."
<i>General Findings</i>	
<ul style="list-style-type: none"> • When asked if the OT felt more collaboration was needed between OTs and BCBA, he/she said that she only felt this was needed when the behaviour is impacting child functioning and it is not so much a sensory issue. He/she pointed out that when behaviour is attention seeking, the input from a behaviour analyst, in terms of providing data, could be helpful. • The OT emphasized his/her goal of functional participation and the importance of choice in reducing non-productive behaviour. • He/she discussed sensory issues that could be involved and the importance of looking at those issues and discussing them with the BCBA if they were to work together. • The main barrier that was identified was availability of the Behaviour Analyst. He/she discussed the long waitlist for behavioural consultation. • Although he/she did not have communication issues with his/her BT, he/she identified lack of open communication as a potential barrier to collaboration. He/she discussed the importance of understanding the developmental needs of clients, along with the impacts of cognitive delays and sensory processing difficulties. He/she said that someone that comes from a "pure" behavioural background might not understand the importance of 	

these factors.

Antecedents Identified in Interview 2

- Atypical/unfamiliar environment
- Stressful environment
- Lack of communication among facilitators toward the children
- Lack of use of visuals
- Lack of communication around times of transitions
- Lack of interest in activities
- Lack of choice around activities
- Availability of objects used to engage in stereotypic behaviour
- Meaningfulness of the activity
- Unclear expectations
- Anxiety around certain activities
- Sensory issues – visual or auditory
- Boredom

Appendix L

Within Case Findings - Observations

BCBA Observations (Within Case)

General Interpretation of Repetitive Behaviour	
<p>Overall the behaviour analyst focused primarily on the need to provide clear expectations and goals to all clients within the camp setting. He/she found that repetitive behaviour didn't seem to impede on perceived goals for the children. The BCBA discussed reinforcement contingencies throughout his/her report in terms of reinforcement for stereotypic behaviour, as well as potential reinforcers that could compete with this behaviour. Sensory experiences were primarily discussed as consequences for behaviour. The use of visuals was emphasized throughout the report as a method to make expectations clearer for the children. The BCBA also discussed some bio-medical issues and possible impact of distressing situations.</p>	
<i>General Observations</i>	
<ul style="list-style-type: none"> • The BCBA asked many questions around reinforcing properties of the behaviour • Discussed possibilities of competing reinforcement • Unclear expectation were emphasized throughout • Questioned relationship between stereotypic behaviour and tantrums • Discussed rates of behaviour and whether or not rates increase if access to stereotypic behaviour is limited • Discussed encouraging independence through picture schedules • Relationship between flapping and low demand situations • Discussion of child goals and whether or not stereotypic behaviour was interfering with goals • Discussed social function versus automatic functions • Discussion of precursor behaviours such as 'anxiety' and level of upset • When engaging in behaviour in a low interaction environment it points to automatic reinforcement function • Discussed whether or not goals and expectations were clear • Discussed clients abilities to do certain activities 	
<i>Recommendations</i>	
<ul style="list-style-type: none"> • Identifying other items that are preferred by the client to engage in more functional play 	<ul style="list-style-type: none"> • "Finding other preferred items could aid in achieving parent goal of more functional play."
<ul style="list-style-type: none"> • Providing instructions that are understandable to the client 	<ul style="list-style-type: none"> • "Are instructions at skill level? Are additional supports needed for client's routine?" • "Clearer instructions needed."
<ul style="list-style-type: none"> • Using "first – then" statements making objects child engages with contingent on other activities 	<ul style="list-style-type: none"> • "Staff uses "first - then" language – could this be a potential avenue for engagement with other tasks? How successful is the client with waiting for

	<p>preferred items?"</p> <ul style="list-style-type: none"> • "String was used as a contingent at one point – this could potentially be a beneficial avenue." • "Potentially schedule 'flap time' as reinforcement within schedule?"
<ul style="list-style-type: none"> • Discussed the need to develop a method to track the behaviours that is developed with the team 	<ul style="list-style-type: none"> • "Need to identify a method of tracking in conjunction with team" • Identify data system with team • "Data should be taken on when behaviour is intruding" • "Identify data collection method"
<ul style="list-style-type: none"> • Need to determine function of behaviour systematically 	<ul style="list-style-type: none"> • "Potential need to complete a more formal functional assessment to determine if there are some elements of multiple control" • "If it impedes then we may need to look at with finer detail including more formal functional assessment." • "Functional assessment necessary for upset-may also aid in relation to stereotypy."
<ul style="list-style-type: none"> • Discussed the need to develop a curriculum with clear individualized goals 	<ul style="list-style-type: none"> • "Curricular revision in conjunction with a team attempt to make individual goals (i.e., ensure instructions are at his level and elements of interest are included such as incorporating activities similar to string play)" • "Possible clear goals and skill development incorporate strengths (potential visual) to ease parent feeling of needing to be engaging him all the time." • "Increase ways to ensure that expectations are clear and client has clear goals" • "Follow up with home to identify goals and/or clarify difficulties" • "Clearer goals and instructions may aid in determining level of difficulty or possible other functions if they exist."
<ul style="list-style-type: none"> • Use of visual supports to increase 	<ul style="list-style-type: none"> • "When given a repeated verbal instruction to put

understanding of instructions	<p>socks away, he opens bag, willing to do so (could visual supports be used?)”</p> <ul style="list-style-type: none"> • “In interim use schedules proactively”
<ul style="list-style-type: none"> • Removing or limiting access to reinforcing item 	<ul style="list-style-type: none"> • “Similarly, he appeared willing to put away socks. Would not having items present reduce concern? Is removing item or using contingent generally a concern? Is it more a concern at home as reported he resists holding hands, as it prevents flapping? Has access been limited or contingent in past?”
<ul style="list-style-type: none"> • Identifying items that compete with RB – identifying sensory components 	<ul style="list-style-type: none"> • “Find ways to incorporate sensation into activities” • “Conduct a preference assessment” • “...is scribbling a potential alternative or competing reinforcement? Could use a portable scribble book. Overall low in this condition.” • “Could squeezing balls + toys be a potential competing reinforcer? Could this be a possible less intruding alternative?”
<ul style="list-style-type: none"> • Prioritizing behaviour and identifying rationale for treatment – is behaviour intruding? 	<ul style="list-style-type: none"> • “Level of upset and protesting appear to be a larger clinical concern than stereotypic behaviour” • “Functional assessment to treat ‘upset’ first” • “Stereotypy is unclear in relation with ‘tantrum’ protest ‘upset’ behaviour. Appear that there are other behaviours of larger importance (i.e., stereotypy, whether related or not, impedes less than ‘upset’)” • “Data should be taken on when behaviour is intruding” • “Clearer identification of areas where behaviour intrudes (e.g. like colouring) would be beneficial.” • “Identification of areas where behaviour intrudes so next steps can be identified” • “
Antecedents	
<ul style="list-style-type: none"> • Lack of availability of other preferred 	<ul style="list-style-type: none"> • “Finding other preferred items could aid in achieving

<p>items or competing stimuli were identified as a possible antecedent</p>	<p>parent goal of more functional play”</p> <ul style="list-style-type: none"> • “Find ways to incorporate sensation into activities” • “Scribbling at the table – is scribbling a potential alternative or competing reinforcement? Could use a portable scribble book. Overall low in this condition” • “Does MP3 player affect clients rate of engagement in activities?” •
<ul style="list-style-type: none"> • Prior access to stereotypic behaviour to reduce future rates – motivating operations 	<ul style="list-style-type: none"> • “Can prior access to stereotypic behaviour reduce frequency (i.e., antecedent manipulations)?” •
<ul style="list-style-type: none"> • Unclear expectations identified as a potential antecedent and whether or not instructions that are provided are at the skill level of the participant 	<ul style="list-style-type: none"> • “...unclear how clear expectations are to him” • “Are instructions at skill level? Are additional supports needed for client’s routine?” • “If expectations were clearer would rates decrease?” • “...however it is unclear to what degree clear expectations at his level were present.” • “Curricular revision in conjunction with a team attempt to make individual goals (i.e., ensure instructions are at his level and elements of interest are included such as incorporating activities similar to string play)” • “Staff asks client to identify person/object in a book – is this a known skill? He does not respond to instruction – does he understand?” • “Follow up with home to identify goals and/or clarify difficulties” • “Clearer instructions needed.” • “Increase ways to ensure that expectations are clear and client has clear goals” • “Small hand flick when hearing verbal schedule – is client clear of expectations?”

	<ul style="list-style-type: none"> • “Some rocking during a colouring activity - are goal and expectations clear? Is client able to do this activity?” • “Does client have a history of clear expectations? Is this an area of need?” • “Clearer goals and instructions may aid in determining level of difficulty or possible other functions if they exist.”
<ul style="list-style-type: none"> • Availability of social reinforcement as a competitive stimuli 	<ul style="list-style-type: none"> • “When sitting with female staff he smiles and stops dangling the string – potential for social reinforcement? Can social reinforcement compete with stereotypic behaviour or is client not engaged enough?”
<ul style="list-style-type: none"> • Biomedical concerns as setting events were discussed such as menstrual pain, medication, and gastro-intestinal issues. 	<ul style="list-style-type: none"> • “Could Celiac (i.e., pain) be possible setting event?” • “Are medications stable? Is there any relation to rates and increase or decrease of dosage?” • “Constipation as setting event?” • “Any current dental concerns? Any relation pain and stereotypy?” • “Is there any relation between stereotypy and menstrual cycle? Any approaches for dealing with discomfort?” •
<ul style="list-style-type: none"> • Visuals to encourage independence and provide clear expectations 	<ul style="list-style-type: none"> • “How could pictures be used to encourage independence (e.g., schedule to address mom’s concerns about constant engagement) what independent skills does he have? Play skills?” • “Use of schedules in setting? What is the relation of schedule use and rates of stereotypic behaviour?” • “Repeated asking- what are client’s communication abilities? Related to verbal or pictorial scheduling?” • “In interim use schedules proactively”

<ul style="list-style-type: none"> Exercise rates as possible antecedents – the need to burn energy based on parent concern 	<ul style="list-style-type: none"> “If mother is thinking stereotypy is related to ‘energy burn’ have there been any attempts for antecedent manipulations around exercise rates?”
<ul style="list-style-type: none"> Low demand situations predict flapping behaviour 	<ul style="list-style-type: none"> “Flaps during low demand situation” “When standing and waiting with no item present client exhibits low level rocking and scripting
<ul style="list-style-type: none"> Frequent availability of item to engage in stereotypic behaviour – discriminative stimuli 	<ul style="list-style-type: none"> “Would not having items present reduce concern?”
<ul style="list-style-type: none"> Distressing situations as possible antecedents 	<ul style="list-style-type: none"> “Are large crowds antecedents –noise, visual?” “What are the details on MP3 usage and effects on stereotypy? Particularly when among large crowds?” “Crying student in the background – could noise be an antecedent for rocking?” “Staff was holding clients hand – client attempted to remove hand from staff and exhibited some rocking and vocalizing” “The relation between upset and stereotypy needs clarification as many instances meet the definition of stereotypic behaviour but it is also part of ‘protesting’”

OT Observations (Within Case)

General Interpretation of Repetitive Behaviour
<p>The OT discussed through his/her observations with all four clients that she would not address repetitive behaviour in these instances. She would address the broader issue of engagement in activities and meaningful interactions. A common theme she discussed was the frequent availability of objects used to engage in RB and whether or not the behaviour was interfering with functional participation. In most cases the OT felt that the behaviour did not interfere with functional activity however she did feel like the participants could have been engaged in more meaningful interactions overall.</p>
<i>General Observations</i>
<ul style="list-style-type: none"> Child engaged in stereotypic behaviour when stressed

- Stereotypic behaviour at times of transition
- Finger waving interpreted as excitement or child becoming disorganized (unsure how to interact with activity)
- Fidget experience needed
- Rocking appeared to be related to anticipation or excitement of an upcoming activity
- Stereotypic behaviour related to child not being engaged in meaningful activities
- Method of coping/calming
- Way of checking where the body is in space – accessing tactile and proprioceptive systems
- Vocal scripting – boredom or anxiety
- Rubbing as a coping/comforting strategy

Recommendations

<ul style="list-style-type: none"> • Use of graphics to help with transitions – this would facilitate understanding and coping 	<ul style="list-style-type: none"> • “Graphics may have facilitated his understanding and coping, thereby reducing use of visual stimulation of string.” • “Again, graphics or pictures could have been used to help transition between the different activities.”
<ul style="list-style-type: none"> • Keeping child engaged in meaningful interactions 	<ul style="list-style-type: none"> • “Leader did nice job engaging child by using counting to draw him in and repetitive behaviour disappeared. Had the leader slowed down and paused, the interaction may have been able to be drawn out longer.”
<ul style="list-style-type: none"> • The use of a fidget toy to help with coping with stressful situations and focus – this can be gradually faded 	<ul style="list-style-type: none"> • “In general, as an OT we encourage use of fidget toys as a strategy to help a child cope and or focus, with gradual fading away of this support.”
<ul style="list-style-type: none"> • Transitional objects – assist with coping with change 	<ul style="list-style-type: none"> • “Allowance of transitional objects is a common recommendation to assist a child with coping with change.”
<ul style="list-style-type: none"> • Educate facilitators on how to provide more meaningful interactions for the children 	<ul style="list-style-type: none"> • “I would work on educating the facilitators more on how to engage the child in back and forth interactions.”
<ul style="list-style-type: none"> • Continuing with activities that child is engaged in – don’t stop something that is meaningful for the child 	<ul style="list-style-type: none"> • “It would be recommended that his caregiver continue with an activity the child is engaged in, such flipping through the same book and pointing to objects of interest or allowing the child to continue to climb for more turns.”
<ul style="list-style-type: none"> • Recommended more interactive 	<ul style="list-style-type: none"> • “It would be recommended that the child would

activities	benefit from having this activity more interactive such as building in some stop/start action.”
<ul style="list-style-type: none"> Remove items that could cause distraction or that are not available 	<ul style="list-style-type: none"> “Presence of the TV gave confusing messages, it should not have been there if it was not intended to be used.”
<ul style="list-style-type: none"> Provide more age appropriate activities that play of the interest of the individual 	<ul style="list-style-type: none"> “Overall, client was being asked to participate in gym activities that were not meaningful and questionable appropriateness to her age. She may have some motor planning difficulties. If goal of program was physical fitness, perhaps DVD to a stationary bike or dancing to music with leader participating as a model?”
Antecedents	
<ul style="list-style-type: none"> The OT discussed times of stress and transitions as a primary antecedent to RB 	<ul style="list-style-type: none"> “Child participated in shaking of string and increased vocalizations (non-productive) when stressed, particularly at times of transition from one activity to another.”
<ul style="list-style-type: none"> A lack of understanding was also identified as a common antecedent 	<ul style="list-style-type: none"> “Graphics may have facilitated his understanding and coping, thereby reducing use of visual stimulation of string.”
<ul style="list-style-type: none"> Activities not chosen by the participants therefore they were not meaningful to them – this resulted in a lack of engagement and motivation to participate 	<ul style="list-style-type: none"> “Most of the activities required of the child were not chosen by him therefore appeared less motivating and meaningful to him given observations of his general affect.” “...it was clear client was not motivated to participate in the activities offered and had reduced engagement with leader.”
<ul style="list-style-type: none"> Connection with the “leader” – the OT discussed the importance of the leader engaging in interactions with the child 	<ul style="list-style-type: none"> “Overall, my impressions were such that the child appeared bored, did not see the activities as meaningful and had minimal connection with his leader.”
<ul style="list-style-type: none"> Lack of engagement – when the child was not interacting with facilitator they engaged in RB 	<ul style="list-style-type: none"> “The string on his shorts seemed to give him the occasional fidget experience he needed, which occurred when he was not engaged in an interaction with his leader.” “Appeared bored, rubbing just a coping/comforting strategy.”

<ul style="list-style-type: none"> • Anticipation or excitement was also identified as a possible antecedent for repetitive behaviour 	<ul style="list-style-type: none"> • “This child did some rocking on his feet, appearing to be related to anticipation or excitement of receiving the ball.”
<ul style="list-style-type: none"> • Anxiety and fear response 	<ul style="list-style-type: none"> • “Moaning perceived as due to anxiety about what was being asked of her...”
<ul style="list-style-type: none"> • Motor planning issues 	<ul style="list-style-type: none"> • “...unsure how to start/complete task due to motor planning challenges.”
<ul style="list-style-type: none"> • Sensory deficits 	<ul style="list-style-type: none"> • “Could have been child’s way of “checking” where her body is in space, accessing tactile and proprioceptive systems.”
<ul style="list-style-type: none"> • Inability to engage in a preferred activity 	<ul style="list-style-type: none"> • “As such, client participated in rocking behaviour to help cope, some facial grimaces. Client unable to focus on colouring activity as preferred activity of “watch TV” was on her mind given visual presence of TV.”

Appendix M

Cross Case – Interviews

Cross Case Comparison By Category – Interview 1

General Interpretation of Repetitive Behaviour		
<i>Similarities</i>		
<ul style="list-style-type: none"> Both OT and BCBA discussed identifying whether or not behaviour should be addressed and discussed the importance of determining a <i>need</i> for intervention 	BCBA	<ul style="list-style-type: none"> “...so a lot of times your first step would be to, one understand what it is you are looking at, determining levels and see does it need intervention? And what is the purpose of the intervention...”
	OT	<ul style="list-style-type: none"> “...we then look at function and how some of the behaviours are impacting the child’s function... if the child has repetitive behaviour in and of itself but it is not impacting their function, I try to educate the parents about that in terms of ultimately looking at a function...”
<ul style="list-style-type: none"> Both the OT and the BCBA discussed the development of new skills as a predictor of less stereotypic behaviour 	BCBA	<ul style="list-style-type: none"> “...once you teach other skills and abilities the rates aren’t so intruding. It can be more difficult.. I find in general if there is a long history... and also when you are having difficulty establishing other skills as well...”
	OT	<ul style="list-style-type: none"> “...in terms of getting interactions going and keeping them going rather than having the child escape and doing hand flapping or repetitive kinds of things and then once the child is engaged more...then you see a reduction in those behaviours...”
<i>Differences</i>		

<ul style="list-style-type: none"> The BCBA put more emphasis on the objective/measurable characteristics of the behaviour where the OT talked more about overall interaction and engagement 	BCBA	<ul style="list-style-type: none"> "...you would have to start out with a topographical definition of what it is exactly you are trying to look at so your measurement systems can be accurate..."
	OT	<ul style="list-style-type: none"> "Well I wouldn't have an assessment just of repetitive behaviour, I would be looking at how the child is playing and interacting, what their joint attention is like, how you can engage them in interactions..."
<ul style="list-style-type: none"> The BACB discussed function of behaviour in terms of consequence events primarily where the OT discussed primarily environmental variables provoking the behaviour (e.g., stress, anxiety, sensory factors etc...) 	BCBA	<ul style="list-style-type: none"> "...I like to look at what's the quality of the reinforcer... can you identify items that compete... can you identify items that not only compete but also provide similar forms of reinforcement so that's where the analysis can become tricky...identifying similar types of reinforcers.. toys.. or activities..."
	OT	<ul style="list-style-type: none"> "...I look what's happening in the environment is the child feeling stressed in some way is there something going on that is stressing the child, so look at some of the sensory kind of components..."
<ul style="list-style-type: none"> Differences in overall focus. The BCBA focused on functional properties of behaviour, discussing competing stimuli and feedback that is reinforcing the behaviour. The OT focused more on overall interaction, joint attention, and productive activity 	BCBA	<ul style="list-style-type: none"> "...But in general what it comes down to is determining function... look for elements that can compete or serve as a similar sort of thing and how you implement it depends on the clients individual needs..."
	OT	<ul style="list-style-type: none"> "...my focus is having them engaged in productive

		activities...so again that repetitive behaviour is one small element so it is not really a huge focus of my intervention it's a nice added bonus and I will address it, but its not my main goal. My main goal is to expand their play and their joint attention..."
<i>General Findings</i>		
<ul style="list-style-type: none"> • Both the OT and the BCBA encounter this behaviour regularly in their practice. • They both emphasized the importance of determining a rationale for intervention however how this was decided was different for each discipline. For OT's he/she looked at general engagement, play, and joint attention through his/her own observations of the child. He/she took a broader view of the child and determined whether or not RB was interfering. Conversely, the behaviour analyst made this same determination around levels/frequency of the behaviour as well as interference with the development of specific skills. His/her evaluation of the behaviour was much more based on objective characteristics of the behaviour itself. • Another major difference found was that the behaviour analyst was much more consequence oriented than the OT. The behaviour analyst focused much more on the function of behaviour in terms of what type of reinforcement an individual was obtaining as the reason behind the behaviour. Where the OT was more focused on aspects in the environment resulting in the repetitive behaviour. • In terms of antecedents discussed the OT talked about stressors in the environment, including sensory aversions, excitement, and anxiety. The BCBA however discussed discriminative stimuli, in terms of signals in the environment that tell the client reinforcement will be available if he/she engages in a specific behaviour. The antecedents the BCBA discussed were more direct/immediate than those discussed by the OT. • The BCBA discussed more of the difficulties surrounding the behaviour where the OT did not indicate that this was a challenging behaviour. The BCBA disclosed that often RB takes more effort to address than other behaviours, however the OT indicated that this would be a small piece of a greater treatment goal around promoting play and interaction, implying that this would not be more effortful as she would use the same approach no matter what the physical behaviours were. • Specific strategies discussed by the OT included mostly sensory related activities (platform swings, chew objects, deep muscle input etc.) where the suggestions made by the BCBA were more around finding items that could compete with the behaviour and provide more reinforcement than the behaviour itself – much more directly related to the behaviour and the contingencies surrounding it. 		

Experience with Interdisciplinary Approaches		
<i>Similarities</i>		
<ul style="list-style-type: none"> Both the OT and the BCBA discussed consultation models as the primary form of communication with other disciplines 	BCBA	<ul style="list-style-type: none"> “Although I work in a service that is very behavioural there has always been opportunities to have consultation with from speech language pathologists... occupational therapists...”
	OT	<ul style="list-style-type: none"> “Occasionally we do have umm behavioural umm psychologists involved as well and we have them available for consultation.”
<ul style="list-style-type: none"> Both the OT and the BCBA worked from a framework where they decided when consultation was needed and when to use recommendations 	BCBA	<ul style="list-style-type: none"> “...what tends to occur is...we’ll have blocks of time when we can access SLP or OT service...if they are not part of an SLP program or OT program we will identify children where it may see appropriate for input. “... it can be easy from my perspective because a lot of time they are consulting to my programs...so ultimately I get to move forward with what seems to be the most feasible...”
	OT	<ul style="list-style-type: none"> “...that [consultation with BA] rarely happens and that’s if there is perhaps some self-injurious behaviour or... the child has a real tough time with...a certain issue...”
<ul style="list-style-type: none"> Both the OT and the BCBA discussed advantages of other disciplines providing a different perspectives 	BCBA	<ul style="list-style-type: none"> “... sometimes when you are working so closely with your clients you can sort of see things the way that you typically seen them... any outside professional at times

		can provide you with another idea set...so I mean that can help with bouncing things off..."
	OT	<ul style="list-style-type: none"> "...just different perspectives, different ideas... is the main advantage of it...going through something...in a very structured or rigid kind of manner helps you to look at things in a different way..."
<ul style="list-style-type: none"> Both the OT and the BCAB discussed how disagreements can occur with different perspectives 	BCBA	<ul style="list-style-type: none"> "...you may at times disagree on what recommendations going forward should be...and you may have disagreement in terms of an understanding of what's occurring and the reasons for the occurrence..."
	OT	<ul style="list-style-type: none"> "...like the resources teacher perhaps may not...we don't work together as much so its we don't read each other quite so well... and I think they come from a very...a learning kind of perspective in terms of a kind of a pre-academic kindergarten readiness kind of skills perspective..."
<ul style="list-style-type: none"> Both the OT and the BCBA discuss collaborative approaches or multi/interdisciplinary approaches as agency dependent and program specific. 	BCBA	<ul style="list-style-type: none"> "...Based on my experience though that is more tied to the design of the program...funding sources..."
	OT	<ul style="list-style-type: none"> "...I think it all depends on the environment you are working in and the population umm...how we have set things up here, in this region...umm it is a very collaborative model... but in other regions it is not like that at all..."

<ul style="list-style-type: none"> Both discuss the importance of frequent interaction/dialogue with other disciplines in order to gain an understanding of the other perspective 	BCBA	<ul style="list-style-type: none"> "...in general I think a lot of the people that I have worked with, I have worked with them on multiple occasions, so what's great is that as long as you keep the dialogue going, you can have the side conversations outside... but sort of agree to disagree...in terms of causes or mechanisms, but you can still move forward..."
	OT	<ul style="list-style-type: none"> "...should it be another SLP that I don't work so regularly with that would be...a little more challenging I guess because I am not as familiar with their perspective... I have been working with this specific SLP for a number of years so... and we come from the same philosophy and we are constantly...daily talking about each client..."
<i>Differences</i>		
<ul style="list-style-type: none"> In attempts to resolve disagreements between disciplines the BCBA discussed taking other perspectives and reframing them into more behavioural language/orientation, where the OT did not do this so much but discussed how he/she would try to teach the other discipline his/her perspective 	BCBA	<ul style="list-style-type: none"> "...a lot of the actual recommendations themselves can be recaptured or reanalyzed according to behaviour principles. A lot of it can be looked at as antecedent manipulations umm so in that way I think that although the wording used or the theory behind it may differ a lot of the actual procedures could be used in a behaviour analytic perspective..."
	OT	<ul style="list-style-type: none"> "...they [Resource teachers] come from... a learning kind of perspective in terms of a kind of a pre-academic kindergarten readiness kind of skills perspective that...sometimes

		working with them... they do get sometimes stuck on products rather than the process...so we do have discussions about the children in terms of lets look at the process...that's much more important..."
<ul style="list-style-type: none"> When talking about general collaboration with other disciplines the OT referred primarily to a trans-disciplinary approach, which she worked under with PTs and SLPs. The OT however did not include BCBA in the trans-disciplinary model. Whereas the BCBA discussed multi-disciplinary approaches that were more dependent on the agency involved and the professional themselves. 	BCBA	<ul style="list-style-type: none"> "...I would say in general with the agencies I have worked at there have been attempts to... multi-disciplinary approaches. Base on my experience though that is more tied to the design of the program...funding sources. In terms of collaboration with other professionals...I think to some degree...to take some ownership...Behaviour analysts could be better at...working with other professionals in a sense..." "...I think that's more a reflection of the actual professionals and where there're at and less about the fields themselves..."
	OT	<ul style="list-style-type: none"> "...we're very trans disciplinary as well...we don't tend to just wear our own hat...we learn through each other in working with each other and we are a consistent team all of the time..."
<i>General Findings</i>		
<ul style="list-style-type: none"> Both the OT and the BCBA were very clear regarding their relationships with other disciplines as be consultative. Consultation for both professionals was very similar in terms of another discipline providing recommendations that were requested by a specific program. The program would decide whether or not such consultation was needed and whether they would implement recommendations Both felt that collaboration with other disciplines was more agency or program specific – 		

depended on the design of the agency (systems issue)

- Both the OT and the BCBA discussed the importance of frequent discussion and interaction with another discipline in order to effectively collaborate and understand different perspectives.
- Both seemed to think that they understood OT/BCBA perspectives
- Differences were found in terms how each professional practiced. The BCBA did not work regularly with other disciplines outside the consultation role, however OT's worked very regularly with a team including SLPs and PTs, however he/she mentioned that they come from the same philosophy and approach – making them more trans-disciplinary.
- The BCBA was more critical of collaboration efforts of his/her own discipline, where the OT did not engage in such critiques
- Another main difference between the two professionals was that the BCBA discussed “reframing” recommendations to fit his/her perspective, however the OT did not discuss this.

Cross Case Comparison By Category – Interview 2

Repetitive Behaviour Interpretation – Specifics highlighted/identified (Post Observation)		
<i>Similarities</i>		
<ul style="list-style-type: none"> • Both the OT and the BCBA felt the expectations were not clearly outlined for the children and both felt this could be related to stereotypic behaviour 	BCBA	<ul style="list-style-type: none"> • “...I mean it could quite possibly be that they are not engaged with the activities because the expectations are not as clear...”
	OT	<ul style="list-style-type: none"> • “...certainly how things are presented and expectations are presented of the children...if they were changed...how the facilitators were interacting with their clients, if some changes could be made in that area then perhaps some of the repetitive behaviour could be reduced...”
<ul style="list-style-type: none"> • Both discussed levels of intrusiveness of the behaviour for each client in terms of whether or not stereotypic behaviour should be addressed. Often both found that it was not impeding enough to directly intervene in these 	BCBA	<ul style="list-style-type: none"> • “...in general I mean it was a nice selection of kids in the sense where umm there were the couple where it seemed to be intruding... others where it didn't seemed to be as much of

situations		an issue from my perspective..."
	OT	<ul style="list-style-type: none"> "...All and all, I mean, I didn't really find the repetitive behaviour to be a huge issue..."
<ul style="list-style-type: none"> Both the OT and the BCBA were concerned about the amount of "free access" or availability of items used to engage in stereotypic behaviour and felt that these items could be used in some sort of more systematic way 	BCBA	<ul style="list-style-type: none"> "...he also had free access in a sense so we obviously have an issue where ya he's not able to do a lot of things in the camp setting...but if he is provided with free access its sort of...it makes sense...I mean for lack of better words...if you put chocolate cake in front of me I am going to eat it..."
	OT	<ul style="list-style-type: none"> "...He was asked to put the socks away and he did it no problem...so he had them available to him too much and I question about the first child as well with the string what would happen if it wasn't there... it wasn't present for him...and maybe give him at times, a transition...as a security transition item only rather than having it available all the time..."
<i>Differences</i>		
<ul style="list-style-type: none"> The BCBA discussed primarily curricular design and goal selection as important components, where the OT discussed meaning of activities and allowing the children to choose and take the lead in terms of what activities to engage in 	BCBA	<ul style="list-style-type: none"> "...I don't know how much of it is necessarily an issue with stereotypy so much as it might just be more beneficial for some sort of curricular design in a sense or goal design."
	OT	<ul style="list-style-type: none"> "...I think certainly for him there is more opportunity to engage him in interactions with his facilitator... had his facilitator...honed in on his interests...reading the book..."

		<p>he was engaged, he was pointing and so forth but as soon as it came to an end of the book instead of going back and reviewing it and following his lead within the book because he was engaged in it...so no that's done lets move on to another one, well then she lost him."</p>
<ul style="list-style-type: none"> The OT was more concerned with the environment that the children were interacting in. She felt that because it was an atypical environment that this could possibly facilitate more stereotypic behaviour. Whereas the BCBA did not seem concerned with the environment itself and actually felt that it provided a variety of activities that the child could engage in. 	BCBA	<ul style="list-style-type: none"> "I liked the fact that there was... all of them did at least attempt to show different sections of the day... that's somewhat important because it lets you see snapshots of the entirety of the day..."
	OT	<ul style="list-style-type: none"> "...obviously the environment is not something that is typical for the child... it is a new thing that their going...that their attending the camp, so obviously if you are going to see some stereotypic behaviour... repetitive behaviour it's going to be in a time that they are feeling stressed..."
<ul style="list-style-type: none"> The OT identified some variables that the BCBA did not focus on, including transitions, lack of choice, anxiety/stress, and physiological concerns. Where the BCBA looked more at level of difficulty, individualized programming, and lack of goal selection 	BCBA	<ul style="list-style-type: none"> "...the thing I came back to quite frequently in terms of most of the kids is it at an appropriate level for them... and that's the part I didn't know...umm because I mean it could quite possibly be that they are not engaged with the activities because the expectations are not as clear. Or maybe they are not as individualized..."
	OT	<ul style="list-style-type: none"> "... often times it was a transition for some of the children and other times it was... in response to being asked to do an activity that they did not want to do or anxious

		about.. I think the one child umm...has motor planning or balance issues it was hard to tell..."
<ul style="list-style-type: none"> The next steps for each professional were quite different. The BCBA discussed getting follow-up answers to questions, designing a curriculum, and developing a system to collect data on the behaviour, where the OT discussed focusing on engagement in productive activities and increasing communication between the children and students. 	BCBA	<ul style="list-style-type: none"> "...I would have to follow up with some of those questions with the team or the group...try to get some of the answers...based on how some of those responses come out to a big degree... I'd probably have to look at some sort of data collection system something that's actually doable in their setting... in terms of first steps I would probably be looking at just in general some sort of goal selections..."
	OT	<ul style="list-style-type: none"> "...I would not address that as a goal in terms of reducing stereotypical behaviour the...that would not be a goal, it would be more how to optimize the child's functional participation in a community activity group or whatever and if possible the optimal solution would be to communicate with the facilitators of the group and in terms of getting suggestions to engage the children more..."

General Findings

- Similarities were evident in terms of each professionals critique of the camp setting. Both felt that the children were unclear of the expectations and had access to objects they engaged in stereotypic behaviour with much too often.
- Both questioned the intrusiveness of the behaviour for all of the children.
- Differences were evident in terms of the types of changes suggested by each professional. The BCBA recommended a more structured environment that was clearly designed, in terms of curricular goals and expectations. Conversely the OT felt that the environment was already too structured and controlled by the students and wanted them to follow the child's lead more and encourage general interaction and engagement.

- The BCBA was much more focused on direct goals and objectives where the OT was more focused on the program having meaning for the child, which would be demonstrated through their engagement and interaction with students and activities.
- Differences were also found in how each professional referred to the students at the camp. The BCBA referred to them as team members or staff, where the OT referred to them as facilitators. These different labels nicely reflect the differences in approach each professional presented.
- Recommendations were very different for both professionals. The OT focused mostly on communication systems, choice making, and transitional supports, where the BCBA discussed developing specific goals for each child, creating a specific curriculum design, and collecting some data to gain more information about the behaviour. The BCBA's recommendations promoted structure and were centered on gaining more information, where the OT's recommendations were more around changing current interaction patterns between the children and the students into a less structured approach.
- The OT's suggestions were less about RB and more about interactions and engagement in general.
- Although both the BCBA and the OT wanted expectations to be more clear. The way they felt this should be achieved was very different.

Reflection of "Other" Perspective		
<i>Similarities</i>		
<ul style="list-style-type: none"> • Both identified initially that they could work with the other and seemed to be on the same page 	BCBA	<ul style="list-style-type: none"> • "...I mean my first gut instinct was it sounded like someone I could probably work with..."
	OT	<ul style="list-style-type: none"> • "...It certainly very thorough and I definitely thought it was useful in terms of reflection... a lot of the thinking was along my line...I mean the follow up questions and things like that..."
<ul style="list-style-type: none"> • Both felt that their recommendations were very similar in terms of changes to be made within the setting (i.e., using stereotypic objects at certain times, use of visual schedule) 	BCBA	<ul style="list-style-type: none"> • "...mention of the use of visuals for the first child and things like that... ultimately that ties in to me in terms of finding an individual way of adding meaning, clear goals, interactions."
	OT	<ul style="list-style-type: none"> • "...I think a lot of the observations where... does the child understand what is being asked of him...and the observation again about the

		communication, lack there of...in terms of a lack of use of graphics and the child's interest in activity as well is something that they had noted..."
<ul style="list-style-type: none"> Both professionals tended to reframe things to fit into their own framework to draw out similarities (e.g., using item as a reinforcer vs. using as a comfort/transitional object) 	BCBA	<ul style="list-style-type: none"> "...incorporating getting in with the activity some how... I think I might have talked about that more in the sense of...how do we expand upon things? How do we use umm these items as reinforcers or as part of reinforcing activity? Umm so I think that was a commonality as well.
	OT	<ul style="list-style-type: none"> "...Again some the observations or questions were using contingent kinds of things so questioning whether to go that route which again was my thinking in terms of let having the object less available and using it a certain points of time."
<ul style="list-style-type: none"> Both indicated they had not really learned anything new from the reports. These were typical of what they have experienced in the past. 	BCBA	<ul style="list-style-type: none"> "...I mean I think that it's...probably because I have probably worked with quite a few OT's as well... it didn't strike me as too unfamiliar...I didn't actually get any new insights or understanding, but then again if you've worked with...if she or he worked with a lot of behaviour analysts I am sure that she would say the same thing about my report..."
	OT	<ul style="list-style-type: none"> "...I think it was very similar in terms of what we were looking at again its just the more technical measuring and things like that where the behavioural analyst would be headed."
<i>Differences</i>		

<ul style="list-style-type: none"> In terms of differences, the BCBA identified more differences between the two approaches than the OT did. The BCBA found that the perception was much different in terms of describing causes and behaviour. The OT however did not identify this difference, but did mention that the BCBA was much more detail oriented and did not focus on the sensory components that he/she focused on 	BCBA	<ul style="list-style-type: none"> "...it's a different perspective in terms of understanding causes... client three is referred to as fear response or things like that where I looked at it as a difficult demand...you know I mean there's ways of translating...I wouldn't see that perspective as being too difficult to...to sort of incorporate in the sense of it's not going against anything I would say...it's just a different theoretical framework."
	OT	<ul style="list-style-type: none"> "...but more detail oriented in terms of the rate of stereotypy when a ritual was presented and umm come in with the whole measurement part of it in terms of frequency and what if you modify...something that we would consider is that is there bouncing balls all over the place so a visual distraction or is there an auditory issue that the child is having difficulties with, is there extra voices an echoey gym and things like that..."
<ul style="list-style-type: none"> BCBA had more difficulty understanding the rationale for some of the OT's recommendations, where the OT seemed to agree with the BCBA's recommendations 	BCBA	<ul style="list-style-type: none"> "...I was a little unclear in terms of her idea or his idea of a transitional object because...there was some assumptions, which most people make in terms of...what's the rationale for it I think it was...coping with change or something like that...I tend to be a little more specific in terms of what the events were occurring so that would be one area that I probably wouldn't necessary connect all those dots..."
	OT	<ul style="list-style-type: none"> "...I would be asking some of this, some of these similar questions but... I think behaviour analysts ability to

		think of the antecedents and the consequences and things like that and how they bring... they add that structure in terms of being able to measure things before and after and so forth...it's very helpful."
<ul style="list-style-type: none"> In terms of use of the other professional's information, the OT seemed to think the BCBA's report would be useful, where the BCBA felt the OT report was redundant and did not provide any new information. 	BCBA	<ul style="list-style-type: none"> "...don't know how much this report would necessarily add because it is coming to the same conclusion...so at that point I don't...I don't really see it as that helpful in a sense... because we sort of agreed on what the goal is..."
	OT	<ul style="list-style-type: none"> "...I definitely think it is beneficial to have the input and the collaboration of the behavioural therapist...from a structured measurability sense."
<ul style="list-style-type: none"> The BCBA discussed that he/she felt that the report was not a true representation of what he would get when working with an OT as at some point they would be seeing the child together, he felt this was important. Where the OT did not identify that anything more needed to be added to have this better represent what was typical of interdisciplinary practice 	BCBA	<ul style="list-style-type: none"> "...but usually when I've worked interdisciplinary usually there's also some time where... I mean you are actually seeing the child together or there's ongoing discussion...there's banter back and forth so I think to some degree I think this is a little bit limited in the sense of umm there isn't that banter..."
	OT	<ul style="list-style-type: none"> "...If a behaviour analyst was involved...in terms of what her reflections were... for sure ya. That has been my experience."

General Findings

- Although both disciplines felt they were very similar, they often reframed each other's perspective to better match up to their own, sometime even changing the meaning of what the other had discussed. For example the OT took the BA's comment on making repetitive behaviour contingent to be the same as her comment on using the behaviour as a transitional device.
- The OT was not as critical of the BA perspective as the BA was of the OT perspective. The BA gave many more suggestions for change for both fields

- Both seemed to feel that the reports were very similar and that the other didn't really report anything new or useful that they didn't already discuss.
- Suggestions around causes were very different as the OT focused more on internal processes (i.e., sensory, anxiety, fear) the BCBA focused more on outside environmental characteristics (i.e., difficult demand, unclear expectation)
- BCBA pointed out difference in perspective more so than the OT
- The BCBA talked about possible changes in how he/she perceived the OT's perspective if they discussed the clients beyond the initial observations and recommendations – The OT did not really indicate that more discussion would change or that the observations were different from typical consults
- The OT was more agreeable compared to the BCBA. The OT did not dispute any of the recommendations and felt that they were all in line with his/her perspective. Where the BCBA was more critical and questioned the OT's rationale more often.

Collaboration		
<i>Similarities</i>		
<ul style="list-style-type: none"> • Both had mixed feeling regarding whether or not collaboration was needed when looking at repetitive behaviour. The BCBA indicated that this approach is very client specific and the OT indicated that this would only be necessary if the behaviour was impacting the child's functioning and was not a sensory issue 	BCBA	<ul style="list-style-type: none"> • "...it depends on the professionals involved...I've worked with some occupational therapists where we've worked quite well together, others not so much...I am sure every OT you talk to will say the same thing about behaviour analysts...so I mean in terms of stereotypy I have found it helpful for some clients in the past and for others not as much."
	OT	<ul style="list-style-type: none"> • "...only when the behaviour is impacting the child's functional abilities..." • "...in this situation they weren't really getting attention they were just passively doing it, but other situations umm where I have had an involvement with a behaviour therapists it was definitely attention seeking behaviour..."

<ul style="list-style-type: none"> Both discussed collaboration in terms of a consultative model 	BCBA	<ul style="list-style-type: none"> "...like I said I am somewhat biased in the sense of right now when I get OT consults it they are consulting into our programs...so that's the model I am more familiar with..."
	OT	<ul style="list-style-type: none"> "...so really the most obvious has been her availability... at times of crisis, real imminent danger she has been able to be become available but for the most part the majority of clients that is not an issue. But she has been able to make herself available real serious dangerous situations but beyond that when we work... she has been available and it is a back and forth discussion..."
<ul style="list-style-type: none"> When asked about barriers or potential barriers to collaboration both identified a lack of understanding of the others theoretical orientation, which could potentially cause conflict around what should be focused on 	BCBA	<ul style="list-style-type: none"> "...probably the one that I have come across the most is...we do have different theoretical viewpoints many times...so to a degree sometimes theoretical models then in turn lead us down different paths in terms of what skills to develop...or how to respond to certain behaviours..."
	OT	<ul style="list-style-type: none"> "...may not be as readily available and perhaps not as understanding of the unique... especially the developmental needs of the clients that I serve...perhaps someone that comes from pure behaviourists background is thinking pure behaviour kind of approach, but when you throw in the cognitive delay and perhaps other behaviour therapists may not be as understanding of the impact sensory processing challenges can have..."
<i>Differences</i>		

<ul style="list-style-type: none"> The BCBA had more concerns with the current model of consultation where interaction was too brief and emphasized the development of a working relationship to resolve conflicts. The OT did not emphasize this as much and felt that collaboration was only needed when behaviour was impacting child functioning (dangerous situations), although the OT did discuss limited availability of BAs. 	BCBA	<ul style="list-style-type: none"> "...with consultative models... a lot of times it's...it's quick...it's in...it's out, which I understand but sometimes it can not be as productive... and sometimes I think that's where there can be difference between... two professionals... is that they are provided with a little snapshot that we give them
	OT	<ul style="list-style-type: none"> "...only when the behaviour is impacting the child's functional abilities..." "...at times of crisis, real imminent danger she has been able to be become available but for the most part the majority of clients that is not an issue..."
<ul style="list-style-type: none"> The BCBA was more reflective of his/her field in terms of what they could do to improve collaboration, where the OT was very brief and not critical of his/her own discipline 	BCBA	<ul style="list-style-type: none"> "...I kind of know our perspective can be quite different...but there are ways of getting the message across that are maybe...I think we can be great at analyzing things but sometimes we are very poor at explaining. We can be a little weaker on the dissemination... a little weaker on the interpersonal side..."
	OT	<ul style="list-style-type: none"> "Just communication really, working together."
<i>General Findings</i>		
<ul style="list-style-type: none"> The BCBA was in general more critical of the current consultative model than the OT. However both discussed the limited time that is allocated to consultation due to the need for quick recommendations and lack of availability and resource allocation Both discussed the appropriateness of collaboration when there is a need for it The BCBA was much more reflective of his/her own discipline in terms of reflecting on how better collaboration could be facilitated through professionals in his/her field. He/she identified several limitations of BAs. The OT did not discuss specific limitations of his/her discipline/field Both identified a lack of understanding of the goals and values of the other discipline as a 		

<p>potential barrier to collaboration</p> <ul style="list-style-type: none"> • The BCBA discussed how without constant dialogue and a developed working relationship often misunderstandings cannot be worked out.

Antecedents	
<i>Similarities</i>	
<ul style="list-style-type: none"> • Lack of clear goals expectations • Free access/Availability of objects used to engage in repetitive behaviour • More meaningful/individualized programming 	
<i>Differences</i>	
OT	BCBA
<ul style="list-style-type: none"> • Atypical/unfamiliar environment • Stressful environment • Lack of communication among facilitators • Lack of use of visuals • Lack of communication/support around times of transition • Lack of Interest in activities • Lack of choice • Anxiety • Sensory issues • Boredom • Too much structure 	<ul style="list-style-type: none"> • Lack of Curricular design • Difficulty of tasks • Need for structure • Level of upset
<i>General Findings</i>	
<ul style="list-style-type: none"> • Overall when looking at antecedents the main difference was found in the types of antecedents that were identified. For the OT antecedents were more internal, in terms of stress, anxiety, and distress. For the BA the antecedents were more focused on the environment surrounding the individual, with the exception of one child who displayed significant distress (crying, screaming), which the BA identified as a possible antecedent. • Similarities were mostly around the children's lack of knowledge of the expectations of the camp as well as the free access they had to items they could use to engage in repetitive behaviour • The BCBA focused more on structure and creating a specific curriculum, where the OT focused more on allowing the children to choose their activities and following the lead of the children. This was a significant difference in antecedent approach to decreasing levels of repetitive behaviour 	

- The way each perceived an activity to be “meaningful” seemed very different

Appendix N

Cross Case – Observations

Cross Case Observations

General Interpretation of Repetitive Behaviour		
<i>Similarities</i>		
<ul style="list-style-type: none"> Both questioned whether this behaviour should be targeted for intervention based on whether or not it was an impeding or intruding behaviour. 	BCBA	<ul style="list-style-type: none"> “If he is able to do activities we need to clarify reasons and rationale for treatment. What goals are expected (e.g., no stereotypy, reduced rates)? If it impedes then we may need to look at with finer detail including more formal functional assessment.”
	OT	<ul style="list-style-type: none"> “When he did engage in the repetitive behaviour of flapping the objects, it did not appear to distract him from participating in functional activity.”
<ul style="list-style-type: none"> Both discussed the issue of the children not understanding the expectations of the environment as a possible contributor to the behaviour. 	BCBA	<ul style="list-style-type: none"> “Increase ways to ensure that expectations are clear and client has clear goals.” “Small hand flick when hearing verbal schedule – is client clear of expectations?”
	OT	<ul style="list-style-type: none"> “After walk up stairs to new gym, was very focused on TV. Presence of the TV gave confusing messages, it should not have been there if it was not intended to be used. As such, client participated in rocking behaviour to help cope, some facial grimaces.” “...would make recommendations about changing interaction patterns of his caregivers, including using visual graphics or pictures to communicate.”
<ul style="list-style-type: none"> Both discussed the issue of frequent availability of items used to engage in stereotypic behaviour and the possibility to utilizing these items in a more controlled way 	BCBA	<ul style="list-style-type: none"> “Client often had access to an item that could be dangled. Therefore long periods of time were spent engaging in “dangling” behaviour to the exclusion of other potential behaviours (e.g., did not play on the equipment or with toys).”

	OT	<ul style="list-style-type: none"> “It appeared this child had the string at all times. I would wonder about giving it to him less frequently, perhaps just at times of transition.”
<i>Differences</i>		
<ul style="list-style-type: none"> The BCBA focused heavily on consequences of stereotypic behaviour where the OT focused more on antecedent events that lead up to this behaviour. 	BCBA	<ul style="list-style-type: none"> “...clarification is needed in terms of the degree of socially mediated contingencies (i.e., behaviour can occur in low interaction indicating a potential for automatic reinforcement for some levels of stereotypic behaviour)”
	OT	<ul style="list-style-type: none"> “Child participated in shaking of string and increased vocalizations (non-productive) when stressed, particularly at times of transition from one activity to another.”
<ul style="list-style-type: none"> The BCBA discussed repetitive behaviour as a way to access reinforcement primarily whether that be automatic or socially mediated where the OT discussed this as a coping strategy primarily when dealing with stressful or novel situations. 	BCBA	<ul style="list-style-type: none"> “At this point does not appear to serve any social functions (i.e. automatic reinforcement)” “When finished staff said ‘we did it!’ – client smiled and began to flap (could this be a potential way to increase engagement or reinforcement?)”
	OT	<ul style="list-style-type: none"> “The use of the string may have been his coping mechanism to deal with the boredom and stress.”
<ul style="list-style-type: none"> The BCBA discussed the need for goals and expectations to be clearly outlined by “staff” where the OT emphasized the importance of choice for the child when goals are outlined. 	BCBA	<ul style="list-style-type: none"> “...increase ways to ensure that expectations are clear and client has clear goals” “Curricular revision in conjunction with a team attempt to make individual goals”
	OT	<ul style="list-style-type: none"> “In addition, modification of activity expectations to include more choice and flexibility.”
<ul style="list-style-type: none"> When looking at general interpretations of repetitive behaviour the BCBA was much more structured and systematic in his/her method of trying to understand repetitive behaviour. Much of his/her focus was on finding functions and identifying reinforcing qualities of the behaviour. The OT however was much more concerned with overall engagement and participation in activities and seemed to be less concerned about specific reasons the children were engaging in repetitive behaviour. He/she was more 		

concerned with reducing stress and making certain experiences easier for the children.

- Both questioned the rationale behind targeting RB as they both felt it was not intrusive enough for most of the participants.
- Although both felt that expectations were not understood by the participants, the BCBA felt that more structure was needed and the OT felt that there should be more choice embedded into activities (i.e., less structure)

Recommendations

Similarities

<ul style="list-style-type: none"> • Both the OT and the BCBA recommended the facilitation of functional play or participation in activities 	BCBA	<ul style="list-style-type: none"> • “Finding other preferred items could aid in achieving parent goal of more functional play.”
	OT	<ul style="list-style-type: none"> • “The repetitive behaviour was not seen when he was engaged in an activity of interest such as climbing, reading.”
<ul style="list-style-type: none"> • Both emphasized the importance of the participant understanding instructions/expectations. • Both recommended visual schedules/graphics to increase understanding. 	BCBA	<ul style="list-style-type: none"> • “Are instructions at skill level? Are additional supports needed for client’s routine?” • “When given a repeated verbal instruction to put socks away, he opens bag, willing to do so (could visual supports be used?)”
	OT	<ul style="list-style-type: none"> • “Child demonstrated protest behaviour after pointing to the door and was denied. This was a good example of where visual graphics/pics could have been used.”
<ul style="list-style-type: none"> • Both discussed that the idea of “using” the object that the participant used to engage in stereotypic behaviour at certain times 	BCBA	<ul style="list-style-type: none"> • “String was used as a contingent at one point – this could potentially be a beneficial avenue.”
	OT	<ul style="list-style-type: none"> • “I would wonder about giving it to him less frequently, perhaps just at times of transition.”

Differences

<ul style="list-style-type: none"> • When discussing “using” the items the BCBA discussed this in terms of making repetitive behaviour contingent on other 	BCBA	<ul style="list-style-type: none"> • “Staff uses “first - then” language – could this be a potential avenue for engagement with other tasks? How
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behaviour, where the OT discussed using the items as comfort items for periods of high stress (i.e., transitions).		successful is the client with waiting for preferred items?"
	OT	<ul style="list-style-type: none"> • "Allowance of transitional objects is a common recommendation to assist a child with coping with change."
<ul style="list-style-type: none"> • When discussing next steps the BCBA was much more focused on measurement and tracking than the OT. The OT was more focused on educating students on making interactions more meaningful. 	BCBA	<ul style="list-style-type: none"> • "Need to identify a method of tracking in conjunction with team"
	OT	<ul style="list-style-type: none"> • "I would work on educating the facilitators more on how to engage the child in back and forth interactions."
<ul style="list-style-type: none"> • The OT was more focused on modifying the activities themselves and changing the way the children were interacting in the camp setting where the BCBA was not as concerned about the activities themselves but more around identifying goals and establishing a curriculum. 	BCBA	<ul style="list-style-type: none"> • "Curricular revision in conjunction with a team attempt to make individual goals (i.e., ensure instructions are at his level and elements of interest are included such as incorporating activities similar to string play)"
	OT	<ul style="list-style-type: none"> • "It would be recommended that his caregiver continue with an activity the child is engaged in, such flipping through the same book and pointing to objects of interest or allowing the child to continue to climb for more turns." • "Overall, client was being asked to participate in gym activities that were not meaningful and questionable appropriateness to her age."
<ul style="list-style-type: none"> • Finding competing forms of reinforcement came up repeatedly with the BCBA as a common strategy/recommendation, where the OT was more focused on keeping the child engaged in other activities 	BCBA	<ul style="list-style-type: none"> • "Could squeezing balls + toys be a potential competing reinforcer? Could this be a possible less intruding alternative?"
	OT	<ul style="list-style-type: none"> • "Overall, my impressions were such that the child appeared bored, did not see the activities as meaningful and had minimal connection with his leader."
<ul style="list-style-type: none"> • Both the BCBA and the OT discussed sensory components however each referenced them differently. • The BCBA discussed sensory stimulation as 	BCBA	<ul style="list-style-type: none"> • "Is the nature of stereotypic behaviour visual based or physical sensation? Is the client watching the movement?"
	OT	<ul style="list-style-type: none"> • "Could have been child's way of "checking" where her body is in

more of a consequence/reinforcement of RB, where the OT discussed sensory issues a more antecedent events that led up to RB		space, accessing tactile and proprioceptive systems.”
<ul style="list-style-type: none"> When looking at recommendations made by each it seemed that the OT’s suggestions were centered more around interaction and engagement with students at the camp, where the BCBA was more concerned with contingencies directly surrounding the behaviour, specifically reinforcement. The OT was much more focused on changing the environment to suit the needs and choices of the child. The BACB was concerned with lack of structure and specified goals. The OT was much more concerned with stressful situations, specifically transitioning and providing support in those situations, where the BCBA was most concerned with finding stimuli that would compete with the behaviour, which would reduce the need to engage in it. 		
Antecedents		
<i>Similarities</i>		
<ul style="list-style-type: none"> Both discussed times of stress or distress as possible antecedents for RB 	BCBA	<ul style="list-style-type: none"> “Are large crowds antecedents –noise, visual?” “Crying student in the background – could noise be an antecedent for rocking?”
	OT	<ul style="list-style-type: none"> “Child participated in shaking of string and increased vocalizations (non-productive) when stressed, particularly at times of transition from one activity to another.”
<ul style="list-style-type: none"> Both discussed issues around activity preference as possible antecedents 	BCBA	<ul style="list-style-type: none"> “Finding other preferred items could aid in achieving parent goal of more functional play.”
	OT	<ul style="list-style-type: none"> “Most of the activities required of the child were not chosen by him therefore appeared less motivating and meaningful to him given observations of his general affect.”
<ul style="list-style-type: none"> Both discussed the issue of the participants not understanding expectations as a possible antecedent. 	BCBA	<ul style="list-style-type: none"> “If expectations were clearer would rates decrease?”
	OT	<ul style="list-style-type: none"> “Graphics may have facilitated his understanding and coping, thereby reducing use of visual stimulation of string.”

<i>Differences</i>		
<ul style="list-style-type: none"> The OT focused heavily on leader interaction as an antecedent of RB including the connection the child had with his/her leader (student) and the level of engagement between them. The BCBA however did not mention the students as antecedents however discussed more direct antecedents such as engagement in RB in the past and availability of competing reinforcement. 	BCBA	<ul style="list-style-type: none"> "Can prior access to stereotypic behaviour reduce frequency (i.e., antecedent manipulations)?"
	OT	<ul style="list-style-type: none"> "Overall, my impressions were such that the child appeared bored, did not see the activities as meaningful and had minimal connection with his leader."
<ul style="list-style-type: none"> The OT described anticipation and excitement as possible antecedents where the BCBA described low demand situations to be possible antecedents. 	BCBA	<ul style="list-style-type: none"> "Flaps during low demand situation" "When standing and waiting with no item present client exhibits low level rocking and scripting."
	OT	<ul style="list-style-type: none"> "This child did some rocking on his feet, appearing to be related to anticipation or excitement of receiving the ball."
<ul style="list-style-type: none"> OT discussed internal processes, as possible antecedents such as fear, motor planning, and sensory deficits where the BCBA discussed more observable medical concerns as far as internal variables were concerned. 	BCBA	<ul style="list-style-type: none"> "Are medications stable? Is there any relation to rates and increase or decrease of dosage?" Any current dental concerns? Any relation pain and stereotypy?
	OT	<ul style="list-style-type: none"> "Moaning perceived as due to anxiety about what was being asked of her, either fear response to balance work or unsure how to start/complete task due to motor planning challenges."
<ul style="list-style-type: none"> Overall antecedents identified tended to overlap, however the OT discussed more internal variables than the BCBA and the BCBA discussed variables that were more observable and immediate in terms of influencing RB. The BCBA and the OT really focused on the lack of understanding of expectations as a possible antecedent The OT however focused more on the interaction between the student and the participant than the BCBA where the BCBA focused mostly on the curriculum itself, not really how the students were carrying it out. 		

- The BCBA discussed low demand situations as possible antecedents where the OT mentioned situations that were exciting or fearful as possible antecedents. These two events seem to contrast each other.